MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXII. No. 23.

$4.00 per year. Single Copy 10 Cents.

THE SOUTH IN 1892.

Read this issue of the MANUFACTURERS' RECORD carefully and preserve it for future reference. It contains the best statistical review of Southern affairs that has ever been published. The figures are authentic and up to date.

THE FULL TABLE OF CONTENTS WILL BE FOUND ON PAGE 172.

Baltimore, January 6, 1893.

CLASSIFIED INDEX OF ADVERTISERS.

For "Alphabetical Index" see Page 46.

Acid Chambers.
Charleston Lead Co., Charleston, S. C.
Herman Poole, New York, N. Y.
Valk & Murdoch Iron Works, Charleston, S. C.

Air Compressors.
M. C. Bullock, Mfg. Co., Chicago, Ill.
Ingersoll-Sergeant Rock D. Co., New York, N.Y.
Morris Machine & Iron Co., Dover, N. J.
Rand Drill Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.

Anti-Friction Metals. [See *Phosphor-Bronze.*]
Paul S. Reeves, Philadelphia, Pa.
Amer. Imp. Anti-Friction Metal Co., Mobile, Ala.

Architects.
Collins & Hackett, Staunton, Va.
Edward Barrath & Co., Chicago, Ill.
Teague & Mayre, Newport News, Va.
A. G. Bauer, Raleigh, N. C.
Gustaf Bottiger, Winston, N. C.
D. G. Zeigler, Charleston, S. C.
Charles H. Read, Richmond, Va.
Wilson & Huggins, Roanoke, Va.
Griswold & Nunan, Owensboro, Ky.
C. R. Makepeace & Co., Providence, R. I.
Drew, Baldwin & Co., New York, N. Y.

Architectural Iron Work.
Covington Machine Co., Covington, Va.
E. M. Hopkins, Savannah, Ga.
Toledo Wire & Iron Works, Toledo, O.
Cushman Iron Co., Roanoke, Va.
Champion Iron Co., Kenton, O.
J. E. Bolles & Co., Detroit, Mich.
Fred. J. Meyers Mfg. Co., Covington, Ky.
T. H. Brooks & Co., Cleveland, O.
P. Duvinage & Co., Brooklyn, N. Y.

Artesian Well Tools and Supplies. [See *Well Tools and Supplies.*]

Babbitt Metal. [See *Anti-Friction Metal.*]

Bankers and Brokers.
Thomas P. Worrall, Philadelphia, Pa.
F. B. S. Morgan, Cleveland, O.
N. W. Harris & Co., Chicago, Ill.
L. Breckinridge Cabell, New York, N. Y.
Godfrey & Train, New York, N. Y.
Hopkins, Dwight & Co., New York, N. Y.
Edward Morton & Co., New York, N. Y.
Exchange Banking & Trust Co., Charleston, S.C.
John L. Williams & Son, Richmond, Va.
Middendorf, Oliver & Co., Baltimore, Md.

Barrel Machinery. [See *Woodworking Machinery.*]
E. & B. Holmes, Buffalo, N. Y.

Bath Tubs.
Haines, Jones & Cadbury Co., Philadelphia, Pa.

Bearings.
N. American Metal. Co., Long Island City, N. Y.

Belting.
Meridian Fdy. & Mch. Shops, Meridian, Miss.
N. Y. Belt. & Pack. Co., Ltd., New York, N. Y.
E. M. Freese & Co., Galion, O.
Cameron & Barkley Co., Charleston, S. C.
Henry Popham & Son, East Newark, N. J.
Main Belting Co., Philadelphia, Pa.
Gandy Belting Co., Baltimore, Md.
Shultz Belting Co., St. Louis, Mo.
Smith-Courtney Co., Richmond, Va.
H. W. Caldwell & Son Co., Chicago, Ill.
American Supply Co., Providence, R. I.

Belting. (Chain.)
H. W. Caldwell & Son Co., Chicago, Ill.
F. H. C. Mey, Buffalo, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Engineer'g Co., Nicetown (Phila.), Pa.

Belt Lacing.
American Supply Co., Providence, R. I.
Henry Popham & Son, East Newark, N. J.
Shultz Belting Co., St. Louis, Mo.
Bristol's Mfg. Co., Waterbury, Conn.

Blinds.
Adams & Woodson, Lynchburg, Va.
Monroe Mfg. Co., Lima, O.

Blowers and Exhaust Fans.
N. England Vent. & Heat. Co., Providence, R. I.
Davidson Ventilating Fan Co., Boston, Mass.
Geo. P. Clark, Windsor Locks, Conn.
B. F. Sturtevant Co., Boston, Mass.

Boiler Appliances.
Sherwood Mfg. Co., Buffalo, N. Y.
Penberthy Injector Co., Detroit, Mich.
Jenkins Bros., New York, N. Y.

Boiler Compound.
Kehrhahn & Co., Baltimore, Md.
H. H. Mansfield, New York, N. Y.

Boiler Fronts and Fittings. [See *Boilers.*]
Vulcan Iron Works Co., Toledo, O.

Boilers. [See *Machinery.*]
Brownell & Co., Dayton, O.
Aultman & Taylor Machinery Co., Mansfield, O.
S. C. Forsaith Machine Co., Manchester, N. H.
Delbert Engineering Co., Ltd., New Orleans, La.
W. C. Leffel Co., Springfield, O.
Golley & Finley Iron Works, Lima, O.
Ravenna Boiler Works, Ravenna, O.
J. H. McEwen Mfg. Co., Ridgway, Pa.
Cameron & Barkley Co., Charleston, S. C.
Meridian Fdy. & Mch. Shops, Meridian, Miss.
Holyoke St. Boiler & Iron Wks., Holyoke, Mass.
Geo. M. Clapp, New York.
Cline Engine & Machine Co., Plymouth, O.
Harrisburg Fdy. & Mch. Works, Harrisburg, Pa.
American Well Works, Aurora, Ill.
Bass Foundry & Mch. Works, Ft. Wayne, Ind.
Geo. R. Lombard & Co., Augusta, Ga.
Geo. J. Fritz, St. Louis, Mo.
Chandler & Taylor Co., Indianapolis, Ind.
Enterprise Boiler Co., Youngstown, O.
Babcock & Wilcox Co., New York, N. Y.
H. Dudley Coleman Mch. Co., Ltd., New Orleans.
Greer Machinery Co., Knoxville, Tenn.
N. Y. Safety Steam Power Co., New York, N. Y.
Buckeye Engine Co., Salem, O.
Smith-Courtney Co., Richmond, Va.
Skinner Engine Co., Erie, Pa.
Talbott & Sons, Richmond, Va.
Cleveland & Hardwick, Erie, Pa.
Dan Shea & Co., Memphis, Tenn.
Oil Well Supply Co., Pittsburg and New York.
Tudor Boiler Mfg. Co., Cincinnati, O.
Valk & Murdoch Iron Works, Charleston, S. C.
Frick Co., Waynesboro, Pa.
Sharon Boiler Works, Limited, Sharon, Pa.
Geo. W. Tifft, Sons & Co., Buffalo, N. Y.
Webster, Camp & Lane Machine Co., Akron, O.
S. D. Warfield Co., Baltimore, Md.
Valley Iron Works, Williamsport, Pa.

Bolts. (Expansion.)
Isaac Church, Toledo, O.

Bolts, Rivets and Nuts.
Thomas Devlin & Co., Philadelphia, Pa.
Milton Mfg. Co., Milton, Pa.
Hoopes & Townsend, Philadelphia, Pa.

Brick.
Washington Hy. P. Brick Co., Washington, D. C.
Coaldale Brick & Tile Co., Birmingham, Ala.

Brick and Clayworking Machinery and Supplies.
G. Coldewe, Milwaukee, Wis.
Central Machine Works, Cleveland, O.
F. H. C. Mey, Buffalo, N. Y.
Kells & Sons, Adrian, Mich.
George Carnell, Philadelphia, Pa.
Walworth Run Fdy. & Mfg. Co., Cleveland, O.
C. & A. Potts & Co., Indianapolis, Ind.
Anderson Fdy. & Mch. Wks., Anderson, Ind.
H. Brewer & Co., Tecumseh, Mich.
E. M. Freese & Son, Galion, O.
J. W. Penfield & Son, Willoughby, O.
Chambers Bros. Co., Philadelphia, Pa.
Fletcher & Thomas, Indianapolis, Ind.
C. W. Raymond & Co., Dayton, O.

Bridges.
S. W. Frescoln, New York, N. Y.
American Bridge & Iron Co., Roanoke, Va.

Building Papers.
Standard Paint Co., New York, N. Y.
Ehret-Warren Mfg. Co., St. Louis, Mo.
Texas Coal Tar & Asphaltum Co., Dallas, Tex.

Business Opportunities.
J. R. Tysen Co., Jacksonville, Fla.
E. E. Bouldin, Danville, Va.
Doane Herring, Winston, N. C.
H. G., Wilmington, Del.
Arthur Steuart, Baltimore, Md.
Borden's Clay County Woodworking Co., Green Cove Springs, Fla.
G. E. Otis, Mansfield, Ark.
H. Martin Brick Mch. Mfg. Co., Lancaster, Pa.
Boston Heating Co., Boston, Mass.
Walburn-Swenson Co., Chicago, Ill.
Irwin Tucker, Newport News, Va.
McClure & Maxwell, Knoxville, Tenn.
T. H. Sampson, New Orleans, La.

Canning Machinery.
Daniel G. Trench & Co., Chicago, Ill.
S. D. Warfield Co., Baltimore, Md.
Niagara Stamping & Tool Co., Buffalo, N. Y.
A. K. Robbins, Baltimore, Md.

Cans. (Fruit and Vegetable.)
Daniel G. Trench & Co., Chicago, Ill.

Card Clothing.
Smith, Saunders & Collins, Newton, N. C.
American Supply Co., Providence, R. I.
Brown & King Supply Co., Atlanta, Ga.
James Smith Woolen Mch. Co., Philadelphia, Pa.
Waters & Garland, Louisville, Ky.

Cars. (Mine and Dump.)
George Peacock, Selma, Ala.
Ryan-McDonald Mfg. Co., Baltimore, Md.
C. W. Raymond & Co., Dayton, O.
C. & A. Potts & Co., Indianapolis, Ind.

Cars. (Passenger and Freight.) [See *Railroad Equipment and Supplies.*]

Car Wheels.
Covington Machine Co., Covington, Va.

Castings. (Brass and Bronze.)
Thomas Devlin & Co., Philadelphia, Pa.
Covington Machine Co., Covington, Va.
Paul S. Reeves, Philadelphia, Pa.

Castings. (Iron.)
Covington Machine Co., Covington, Va.
Glamorgan Co., Lynchburg, Va.
Chattanooga Fdy. & P. Wks., Chattanooga, Tenn.
Howard-Harrison Iron Co., Bessemer, Ala.
Vulcan Iron Works Co., Toledo, O.
Todd Pulley & Shafting Works, E. St. Louis, Ill.
Manly Machine Co., Dalton, Ga.
Walker Mfg. Co., Cleveland, O.
McLanahan & Stone, Hollidaysburg, Pa.

Castings. (Malleable Iron and Steel.)
Thomas Devlin & Co., Philadelphia, Pa.
Balto. Mal. Iron & Steel Cast. Co., Balto., Md.
Chester Steel Castings Co., Chester, Pa.

Cement.
Howard Hyd. Cement Co., Chattanooga, Tenn.

Chemicals.
Standard Guano & Chemical Mfg. Co., New Orleans, La.

Chemists.
Dr. Walter Th. Scheele, New York, N. Y.
Iron Masters' Laboratory, Warrenton, Va.
John M. McCandless, Atlanta, Ga.
John Sanderson, Middlesborough, Ky.
Frederic P. Dewey, Washington, D. C.
Walter M. Stein, Philadelphia, Pa.
Philadelphia Metallurgical Wks., Philadelphia.
Ledoux Chemical Laboratory, New York.
Dr. Henry Froehling, Richmond, Va.
Herman Poole, New York, N. Y.

Clocks. (Watchman's.)
C. D. Bernsee, New York, N. Y.

Clutches. (Friction.)
J. H. & D. Lake, Hornellsville, N. Y.
Weller Mfg. Co., Chicago, Ill.
The Moore & White Co., Philadelphia, Pa.
Taper Sleeve Pulley Works, Erie, Pa.
Webster Mfg. Co., Chicago, Ill.
Walker Mfg. Co., Cleveland, O.
James Smith Woolen Mch. Co., Philadelphia, Pa.
Webster, Camp & Lane Machine Co., Akron, O.

Coke Ovens.
Gates Bros. & Sharp, Corinth, W. Va.
Walter M. Stein, Philadelphia, Pa.

Contractors and Builders.
Redfield Co., Little Rock, Ark.

Contractors' Machinery and Supplies.
[See *Hoisting Machinery.*]
Lidgerwood Mfg. Co., New York, N. Y.
American Hoist & Derrick Co., St. Paul, Minn.
Vulcan Iron Works Co., Toledo, O.
Marion Steam Shovel Co., Marion, O.
Bucyrus Stm. Shovel & Dredge Co., Bucyrus, O.
Contractors' Plant Mfg. Co., Buffalo, N. Y.
Ryan-McDonald Mfg. Co., Baltimore, Md.
G. L. Stuebner & Co., Long Island City, N. Y.
J. H. Lancaster, New York, N. Y.

Conveying Machinery.
Brown Hoist. & Con. Mch. Co., Cleveland, O.
Webster Mfg. Co., Chicago, Ill.
P. M. Walton, Philadelphia, Pa.
Walker & Elliott, Wilmington, Del.
F. H. C. Mey, Buffalo, N. Y.
Weller Mfg. Co., Chicago, Ill.
W. J. Clark & Co., Salem, O.
H. W. Caldwell & Son Co., Chicago, Ill.
McLanahan & Stone, Hollidaysburg, Pa.
The Jeffrey Mfg. Co., Columbus, O.
Link-Belt Engineer'g Co., Nicetown (Phila.), Pa.

Cord. (Bell, Sash, Arc Light, Trolley, etc.)
Sampson Cordage Works, Boston, Mass.

Corrugated Iron. [See *Roofing and Siding.*]

Cotton Gin Machinery.
Van Winkle Gin & Machinery Co., Atlanta, Ga.
Dudley E. Jones Co., Little Rock, Ark.
Carver Cotton Gin Co., E. Bridgewater, Mass.
National Cotton Gin Co., Boston, Mass.
George R. Lombard & Co., Augusta, Ga.
Talbott & Sons, Richmond, Va.
Valk & Murdoch Iron Works, Charleston, S. C.

Cottonseed-oil Machinery.
Van Winkle Gin & Machinery Co., Atlanta, Ga.
Carver Cotton Gin Co., E. Bridgewater, Mass.
Boomer & Boschert Press Co., Syracuse, N. Y.
Cardwell Machine Co., Richmond, Va.
M. C. Cogswell, New York, N. Y.
George J. Fritz, St. Louis, Mo.
Talbott & Sons, Richmond, Va.

Cranes. (Traveling.)
William Tod & Co., Youngstown, O.
Walker Mfg. Co., Cleveland, O.

Crushers. (Corn and Cob.)
J. I. Case Threshing Machine Co., Racine, Wis.
Sprout, Waldron & Co., Muncy, Pa.
M. C. Cogswell, New York, N. Y.
Foos Mfg. Co., Springfield, O.
Talbott & Sons, Richmond, Va.
Nordyke & Marmon Co., Indianapolis, Ind.

Crushing and Pulverizing Machinery.
Thomas Carlin's Sons, Allegheny, Pa.
Bradley Fertilizer Co., Boston, Mass.
Beckett Foundry & Mch. Co., Arlington, N. J.
Copeland & Bacon, New York, N. Y.
Foos Mfg. Co., Springfield, O.
James H. Lancaster, New York, N. Y.
Cyclone Pulverizer Co., New York, N. Y.
F. D. Cummer & Son Co., Cleveland, O.
W. F. Mosser & Son, Allentown, Pa.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Union Foundry & Mch. Wks., Rockaway, N. J.
J. R. Alsing Co., New York, N. Y.
P. M. Walton, Philadelphia, Pa.
Sprout, Waldron & Co., Muncy, Pa.
Sturtevant Mill Co., Boston, Mass.
Gates Iron Works, Chicago, Ill.
American Ore Machinery Co., New York, N. Y.
Frisbee-Lucop Mill Co., New York, N. Y.
Stedman's Fdy. & Mch. Works, Aurora, Ind.
Walker & Elliott, Wilmington, Del.
James Murray & Son, Baltimore, Md.

Cups. (Oil and Grease.)
Wm. Powell Co., Cincinnati, O.
Sherwood Mfg. Co., Buffalo, N. Y.

Cutter Heads.
Samuel J. Shimer & Sons, Milton, Pa.

Derricks.
J. I. Case Threshing Machine Co., Racine, Wis.
Thomas Carlin's Sons, Allegheny, Pa.
American Hoist & Derrick Co., St. Paul, Minn.

Dredges and Excavators.
Vulcan Iron Works Co., Toledo, O.
Urie Dredge Mfg. Co., Kansas City, Mo.
Marion Steam Shovel Co., Marion, O.
Copeland & Bacon, Philadelphia, Pa.
Bucyrus Stm. Shovel & Dredge Co., Bucyrus, O.

Drills. (Prospecting.)
Sullivan Machinery Co., Chicago, Ill.
M. C. Bullock Mfg. Co., Chicago, Ill.
General Electric Co., New York, N. Y.

Drills. (Rock.)
Pech Mfg. Co., Chicago, Ill.
Sullivan Machinery Co., Chicago, Ill.
M. C. Bullock Mfg. Co., Chicago, Ill.
Rand Drill Co., New York, N. Y.
Ingersoll-Sergeant Rock D. Co., New York, N.Y.

Drills. (Twist.)
Cleveland Twist Drill Co., Cleveland, O.
Graham Twist Drill & Chuck Co., Detroit, Mich.
New Process Twist Drill Co., Taunton, Mass.

Drilling Machines.
Mc Naull Fdy. & Mch. Co., Ronceverte, W. Va.
W. F. & Jno. Barnes Co., Rockford, Ill.
Lodge & Davis Machine Tool Co., Cincinnati, O.
Foos Mfg. Co., Springfield, O.
Sebastian-May Co., Sidney, O.
E. Harrington, Son & Co., Philadelphia, Pa.
H. Bickford, Lakeport, N. H.
Draper Machine Tool Co., Worcester, Mass.
Silver Mfg. Co., Salem, O.
Stow Mfg. Co., Binghamton, N. Y.
Stow Flexible Shaft Co., Ltd., Philadelphia, Pa.
Pennsylvania Mch. Co., Ltd., Philadelphia, Pa.

Drop Forgings.
Billings & Spencer Co., Hartford, Conn.

Dry Kilns.
Globe Dry-Kiln Co., Meridian, Miss.
F. D. Cummer & Son Co., Cleveland, O.
B. F. Sturtevant Co., Boston, Mass.

Ejectors.
Sherwood Mfg. Co., Buffalo, N. Y.
Pancoast & Maule, Philadelphia, Pa.
Penberthy Injector Co., Detroit, Mich.

Electric-light and Power Plants.
Lovell Mfg. Co., Ltd., Erie, Pa.
Bliss Engineering Co., Washington, D. C.
Construction Department Ries Electric Specialty Co., Baltimore, Md.
Electrical Engineer'g & S. Co., Memphis, Tenn.
Jordan & MacLeod, Washington, D. C.
H. Ward Leonard & Co., New York, N. Y.
S. D. Warfield Co., Baltimore, Md.
Rockford Electric Mfg. Co., Rockford, Ill.
Smith, Saunders & Collins, Newton, N. C.
General Electric Co., New York, N. Y.
Heisler Electric Co., Philadelphia, Pa.

Electric Railway Equipment.
Electrical Engineer'g & S. Co., Memphis, Tenn.
Construction Department Ries Electrical Specialty Co., Baltimore, Md.
Bliss Engineering Co., Washington, D. C.
New York Equipment Co., New York, N. Y.
G. T. Woods Mfg. Co., New York, N. Y.
H. Ward Leonard & Co., New York, N. Y.
S. W. Frescoln, New York, N. Y.
General Electric Co., New York N. Y.

Electrical Supplies.
Lovell Mfg. Co., Ltd., Erie, Pa.
Bliss Engineering Co., Washington, D. C.
Electrical Engineer'g & S. Co., Memphis, Tenn.
De Lew & Bailey, Baltimore, Md.
W. J. Williams, Dallas, Texas.

CLASSIFIED INDEX OF ADVERTISERS.

FOR "ALPHABETICAL INDEX" SEE PAGE 46.

G. T. Woods Mfg. Co., New York, N. Y.
Jordan & MacLeod, Washington, D. C.
S. D. Warfield Co., Baltimore, Md.
General Electric Co., New York, N. Y.
Rockford Electric Co., Rockford, Ill.
Smith, Saunders & Collins, Newton, N. C.
Heisler Electric Co., Philadelphia, Pa.

Elevators.
Howard Fdy. & Mch. Wks., Philadelphia, Pa.
Variety Machine Co., Warsaw, N. Y.
Graves Elevator Co., Rochester, N. Y.
Otis Bros. & Co., New York, N. Y.
Jas. H. Curran, Cincinnati, O.
James Bates, Baltimore, Md.
Morse, Williams & Co., Philadelphia, Pa.

Elevator Devices.
Safety Elevator Brake Co., Chicago, Ill

Emery Wheels. [See *Polishing and Grinding Machinery.*]

Engineers. (Consulting and Contracting.)
Julian Kennedy, Pittsburg, Pa.
De Lew & Bailey, Baltimore, Md.
A. Leofred, Montreal, Canada.
W. B. Smith Whaley, Columbia, S. C.
Collins & Hackett, Staunton, Va.
Edward Barrath & Co., Chicago, Ill.
John N. Adams, Richmond, Va.
Calhoun & Co., Chicago, Ill.
John C. Chase, Wilmington, N. C.
George N. Comly, Wilmington, Del.
T. Waln-Morgan Draper, New York, N. Y.
S. W. Frescoln, New York, N. Y.
Griswold & Nunan, Owensboro, Ky.
W. H. Gibbes, Jr., & Co., Columbia, S. C.
R. F. Hartford, Atlanta, Ga.
Julian Kennedy, Pittsburg, Pa.
Olin H. Landreth, Nashville, Tenn.
H. Ward Leonard & Co., New York, N. Y.
C. Ad. Mezger, Charlotte, N. C.
Albert D. Pentz, Elizabeth, N. J.
Herman Poole, New York, N. Y.
Josiah Pierce, Jr., Baltimore, Md.
Walter M. Stein, Philadelphia, Pa.
Arthur L. Stevens, Philadelphia, Pa.
Ed. N. K. Talcott, New York, N. Y.

Engines. [See *Machinery.*]
Brownell & Co., Dayton, O.
J. I. Case Threshing Machine Co., Racine, Wis.
Racine Hardware Mfg. Co., Racine Wis.
Meridian Fdy. & Mch. Shops, Meridian, Miss.
Beckett Foundry & Mch. Co., Arlington, N. J.
William Tod & Co., Youngstown, O.
Remington Machine Co., Wilmington, Del.
H. Dudley Coleman Machine Co., Ltd., New Orleans, La.
Geo. R. Lombard & Co., Augusta, Ga.
Morris Mch. & Iron Co., Dover, N. J.
Oil Well Supply Co., Pittsburg and New York.
Weisel & Vilter Mfg. Co., Milwaukee, Wis.
Ajax Iron Works, Corry, Pa.
Edward P. Allis Co., Milwaukee, Wis.
American Engine Co., Bound Brook, N. J.
American Well Works, Aurora, Ill.
Bass Foundry & Mch. Works, Ft. Wayne, Ind.
Buckeye Engine Co., Salem, O.
Cameron & Barkley Co., Charleston, S. C.
Chandler & Taylor Co., Indianapolis, Ind.
George M. Clapp, New York, N. Y.
Cleveland & Hardwick, Erie, Pa.
Cline Engine & Machine Co., Plymouth, O.
Delbert Engineer'g Co., Ltd., New Orleans, La.
S. C. Forsaith Machine Co., Manchester, N. H.
Frick Co., Waynesboro, Pa.
George J. Fritz, St. Louis, Mo.
Globe Machine Works, Cincinnati, O.
Greer Machinery Co., Knoxville, Tenn.
Harrisburg Fdy. & Mch. Wks., Harrisburg, Pa.
Houston, Stanwood & Gamble, Cincinnati, O.
W. C. Leffel Co., Springfield, O.
J. H. McEwen Mfg. Co., Ridgway, Pa.
N. Y. Safety Steam Power Co., New York, N. Y.
Pennsylvania Mch. Co., Ltd., Philadelphia, Pa.
Philadelphia Eng. Wks., Ltd., Philadelphia, Pa.
Skinner Engine Co., Erie, Pa.
Smith-Courtney Co., Richmond, Va.
Talbott & Sons, Richmond, Va.
Geo. W. Tifft, Sons & Co., Buffalo, N. Y.
Valk & Murdoch Iron Works, Charleston, S. C.
Valley Iron Works, Williamsport, Pa.
E. Walker Tool Co., Erie, Pa.
S. D. Warfield Co., Baltimore, Md.
Webster, Camp & Lane Machine Co., Akron, O.
Wheland's Fdy.& Mch.Wks.,Chattanooga.Tenn

Engines. (Gas.)
Shipman Engine Co., Boston, Mass.
Otto Gas Engine Works, Philadelphia, Pa.
Van Duzen Gas & Gaso. Eng. Co., Cincinnati, O.

Engines. (Oil.)
Shipman Engine Co., Boston, Mass.
Rochester Mch. Tool Works, Rochester, N. Y.
Whitman & Barnes Mfg. Co., Syracuse, N. Y.

Engravers.
James F. Tobin, Philadelphia, Pa.
Baltimore Engraving Co., Baltimore, Md.
A Hoen & Co., Richmond, Va.
Photo Electro Engraving Co., New York, N. Y.

Feed Water Heaters.
Edward P. Allis Co., Milwaukee, Wis.
James Berryman, Philadelphia, Pa.
Delbert Engineer'g Co., Ltd., New Orleans, La.
Stilwell & Bierce Mfg. Co., Dayton, O.

Fencing.
Hartman Mfg. Co., Beaver Falls, Pa.
H. Balderston & Son, Baltimore, Md.
Champion Iron Co., Kenton, O.
Cushman Iron Co., Roanoke, Va.
Dufur & Co., Baltimore, Md.
Ludlow-Saylor Wire Co., St. Louis, Mo.
Fred. J. Meyers Mfg. Co., Covington, Ky.
Toledo Wire & Iron Works, Toledo, O.

Fertilizer Machinery.
Cameron & Barkley Co., Charleston, S. C.
Charleston Lead Co., Charleston, S. C.
W. D. Dunning, Syracuse, N. Y.
Valk & Murdoch Iron Works, Charleston, S. C.
Walker & Elliott, Wilmington, Del.

Files.
Nicholson File Co., Providence, R. I.

Filters.
Gravity Purifier Co., Decatur, Ind.

Fire Brick.
Sharon Fire-Brick Works, Sharon, Pa.
Union Mining Co., Mt. Savage, Md.
Ashland Fire Brick Co., Ashland, Ky.
Henry Stevens's Sons, Macon, Ga.
Louisville Fire Brick Works, Louisville, Ky.
Southern Fire Brick Works, Richmond, Va.

Flour and Grist Mill Machinery and Supplies.
J. B. Allfree Mfg. Co., Indianapolis, Ind.
H. W. Caldwell & Son Co., Chicago, Ill.
J. H. Day & Co., Cincinnati, O.
Nordyke & Marmon Co., Indianapolis, Ind.
Sprout, Waldron & Co., Muncy, Pa.
Stilwell & Bierce Mfg. Co., Dayton, O.
Talbott & Sons, Richmond, Va.
Weller Mfg. Co., Chicago, Ill.

Flue Cleaners.
Oliver P. Clay Co., Cleveland, O.
St. Louis Steel Wire Brush Co., St. Louis, Mo.
Sherwood Mfg. Co., Buffalo, N. Y.

Forges.
Bradley & Co., Syracuse N. Y.
Foos Mfg. Co., Springfield, O.
B. F. Sturtevant Co., Boston, Mass.

Fuel Gas Producers.
T. H. Brooks & Co., Cleveland, O.
Julian Kennedy, Pittsburg, Pa.

Furnace Builders.
Covington Machine Co., Covington, Va.
Walter M. Stein, Philadelphia, Pa.
American Bridge & Iron Co., Roanoke, Va.
Philadelphia Eng. Wks., Ltd., Philadelphia, Pa.
Julian Kennedy, Pittsburg, Pa.
S. W. Frescoln, New York, N. Y.

Furniture. (Office.)
E. H. Stafford Co., Grand Rapids, Mich.
J. M. Sauder & Co., Roanoke, Va.
Office Specialty Mfg. Co., Atlanta, Ga.

Gas Machines.
N.Y. Domestic Gas Mch. Co., New York, N.Y.

Glass. (Stained.)
Henry Seim & Co., Baltimore, Md.
Ernest V. Richards, Wilmington, N. C.
W. A. Heffernan, Lynchburg, Va.

Gold Extractors.
Mechanical Gold Extractor Co., New York, N.Y

Grates and Grate Bars.
Kelley Bros. Goshen, Ind.
New York Central Iron Wks. Co., Geneva, N.Y.
Walworth Run Foundry & Mfg.Co.,Cleveland,O.

Grain Elevator Supplies.
Weller Mfg. Co., Chicago, Ill.
H. W. Caldwell & Son Co., Chicago, Ill.
W. J. Clark & Co., Salem, O.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Engineer'g Co., Nicetown (Phila.),Pa.
Webster Mfg. Co., Chicago, Ill.

Grinding and Polishing Machinery.
N. Y Belt. & Pack. Co., Ltd., New York, N. Y.
Grant Corun. Wheel Mfg. Co., Chester, Mass.
Southern Emery Wheel Co., Tallapoosa, Ga.
Michigan Emery Wheel Co., Detroit, Mich.
Waltham Emery Wheel Co., Waltham, Mass.
Northampton Emery Wheel Co., Leeds, Mass.
Norton Emery Wheel Co., Worcester, Mass.

Hammers. (Steam and Power.)
E. W. Bliss Co., Brooklyn, N. Y.
Bradley & Co., Syracuse, N. Y.
Belden Machine Co., New Haven, Conn.
Hackney Hammer Co., Cleveland, O.
David Bell, Buffalo, N. Y.
Bement, Miles & Co., Philadelphia, Pa.
Long & Allstatter Co., Hamilton, O.

Handle Machinery. [See *Woodworking Machinery.*]
Mitts & Merrill, East Saginaw, Mich.
Ober Lathe Co., Chagrin Falls, O.
Egan Co., Cincinnati, O.
S. C. Forsaith Machine Co., Manchester, N. H.
Trevor Mfg. Co., Lockport, N. Y.

Hardware Specialties.
Thomas Devlin & Co., Philadelphia, Pa.
Berger Bros., Philadelphia, Pa.
L. S. Starrett, Athol, Mass.
J. H. Day & Co., Cincinnati, O.
C. F. Richardson, Athol, Mass.
Belden Machine Co., New Haven, Conn.
Van Wagoner & Williams Co., New York, N. Y.
Cronk Hanger Co., Elmira, N. Y.
Covert Mfg. Co., West Troy, N. Y.

Hay Tools.
J. I. Case Threshing Machine Co., Racine, Wis.
Silver Mfg. Co., Salem, O.

Heating Apparatus.
Warren Webster & Co., Philadelphia, Pa.
New England Vent. & Heat. Co.,Providence,R.I.
T. H. Brooks & Co., Cleveland, O.
B. F. Sturtevant Co., Boston, Mass.

Hoisting Machinery.
Thomas Carlin's Sons, Allegheny, Pa.
Covington Machine Co., Covington, Va.
Beckett Foundry & Mch, Co., Arlington, N. J.
American Hoist & Derrick Co., St. Paul, Minn.
Lincoln Iron Works, Rutland, Vt.
Morris Machine & Iron Co., Dover, N. J.
James H. Lancaster, New York, N. Y.
Cline Engine & Machine Co., Plymouth, O.
Brown Hoist. & Conv. Mch. Co., Cleveland, O.
Lidgerwood Mfg. Co., New York, N. Y.
Union Fdy. & Mch. Works, Rockaway, N. J.
John F. Byers Machine Co., Ravenna, O.
M. C. Bullock Mfg. Co., Chicago, Ill.
Contractors' Plant Mfg. Co., Buffalo, N. Y.
Sullivan Machinery Co., Chicago, Ill.
Copeland & Bacon, New York, N. Y.
Vulcan Iron Works Co., Toledo, O.
Ryan-McDonald Mfg. Co., Baltimore, Md.
Webster, Camp & Lane Machine Co., Akron, O.

Chain Hoist.

Moore Mfg. & Fdy. Co., Milwaukee, Wis.
E. Harrington, Son & Co., Philadelphia, Pa.

Hoop Machinery.
Frontier Iron Works, Detroit, Mich.

Hose.
N. Y. Belt. & Pack. Co., Ltd., New York, N. Y.
John C. N. Guibert, New York, N. Y.

Hose Racks.
John C. N. Guibert, New York, N. Y.

Hydrants.
Ludlow Valve Mfg. Co., Troy, N. Y.

Ice-Making Machinery.
Remington Machine Co., Wilmington, Del.
Weisel & Vilter Mfg. Co., Milwaukee, Wis.
Burns Mfg. Co., Atlanta, Ga.
E. C. Hillyer & Co., Newport News, Va.
Arthur L. Stevens, Philadelphia, Pa.
Van Winkle Gin & Machinery Co., Atlanta, Ga.
Fred. W. Wolf Co., Chicago, Ill.
Frick Co., Waynesboro, Pa.

Injectors.
Delbert Engineer'g Co., Ltd., New Orleans, La.
Garfield Injector Co., Wadsworth, O.
Sherwood Mfg. Co., Buffalo, N. Y.
Penberthy Injector Co., Detroit, Mich.
Jenkins Bros., New York, N. Y.

Insurance.
Employers' Liability Assurance Corporation, Limited, Boston, Mass.
Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.

Iron and Steel.
Maryland Steel Co., Sparrow's Point, Md.

Iron Buildings and Roofs.
Covington Machine Co., Covington, Va.
American Bridge & Iron Co., Roanoke, Va.
S. W. Frescoln, New York, N. Y.

Ironworking Machinery.
McNaull Fdy. & Mch. Co., Ronceverte, W. Va.
E. W. Bliss Co., Brooklyn, N. Y.
E. M. Hopkins, Savannah, Ga.
Sebastian Lathe Co., Cincinnati, O.
H. Bickford, Lakeport, N. H.
Draper Machine Tool Co., Worcester, Mass.
Ingersoll Milling Machine Co., Rockford, Ill.
Toledo Machine & Tool Co., Toledo, O.
Bement, Miles & Co., Philadelphia, Pa.
Sebastian-May Co., Sidney, O.
Stow Mfg. Co., Binghamton, N. Y.
Smith-Courtney Co., Richmond, Va.
Pennsylvania Mch. Co., Ltd., Philadelphia, Pa.
Stow Flexible Shaft Co., Ltd., Philadelphia, Pa.
E. Harrington, Son & Co., Philadelphia, Pa.
Lodge & Davis Mch Tool Co., Cincinnati, O.
Niagara Stamping & Tool Co., Buffalo, N. Y.

Knitting Machinery.
Nye & Tredick, Philadelphia, Pa.

Laundry Machinery.
Oakley & Keating, New York, N. Y.
Geo. J. Fritz, St. Louis, Mo.
The A. M. Dolph Co., Cincinnati, O.

Lights. (Factory and Outdoor.)
T. H. Brooks & Co., Cleveland, O.

Locomotive Builders. [See *Railroad Equipment and Supplies.*]
Richmond Loco. & Mch. Wks., Richmond, Va.
H. K. Porter & Co., Pittsburg, Pa.
Baldwin Locomotive Works, Philadelphia, Pa.

Lumber. [See *Directory of Southern Lumber Dealers.*]
Sam L. Brooks, Washington, Ga.
E. D. Albro Co., Cincinnati, O.
T. J. Shryock & Co., Baltimore, Md.

Machinery.
Howard Fdy. & Mch. Wks., Philadelphia, Pa.
Redfield Co., Little Rock, Ark.
Thomas F. Bishop & Co., Cincinnati, O.
Central Machine Works, Cleveland, O.
De Lew & Bailey, Baltimore, Md.
E. W. Bliss Co., Limited, Brooklyn, N. Y.
Cameron & Barkley Co., Charleston, S. C.
W. J. Williams, Dallas, Texas.
H. H. Mansfield, New York, N. Y.
S. D. Warfield Co., Baltimore, Md.
William Tod & Co., Youngstown, O.
Brown & King Supply Co., Atlanta, Ga.
Southern Equipment Co., Chattanooga, Tenn.
Cushman Iron Co., Roanoke, Va.
Chester Bertolette & Co., Norristown, Pa.
Pennsylvania Mch. Co., Ltd., Philadelphia, Pa.
S. C. Forsaith Machine Co., Manchester, N. H.
Stow Flexible Shaft Co., Ltd., Philadelphia, Pa.
John N. Adams, Richmond. Va.

Machinery and Tools. (Second-hand.)
Will W. Beirce, Montgomery, Ala.
Thomas F. Bishop & Co., Cincinnati, O.
H. H. Mansfield, New York, N. Y.
Geo. Place Machinery Co., New York, N. Y.
F. H. Potter, Providence, R. I.
Frank Toomey, Philadelphia, Pa.
Chester Bertolette & Co., Norristown, Pa.
Geo. M. Clapp, New York, N. Y.
New York Machinery Depot, New York, N. Y.
Prentiss Tool & Supply Co., New York, N. Y.

Mail Chutes.
Cutler Mfg. Co., Rochester N. Y.

Mill Engineers.
John C. Knight, Boston, Mass.
C. R. Makepeace & Co., Providence, R. I.
Drew, Baldwin & Co., New York, N. Y.

Mill Supplies.
Meridian Fdy. & Mch. Shops, Meridian, Miss.
W. J. Williams, Dallas, Texas.
W. H. Gibbes, Jr., & Co., Columbia, S. C.
Brown & King Supply Co., Atlanta, Ga.
H. Dudley Coleman Mch. Co.,Ltd., New Orleans.
Queen City Supply Co., Cincinnati, O.
Talbott & Sons, Richmond, Va.
Waters & Garland, Louisville, Ky.
James Smith Woolen Mch. Co., Philadelphia, Pa.
Delbert Engineer'g Co., Ltd., New Orleans, La.
Smith-Courtney Co., Richmond, Va.
Cameron & Barkley Co., Charleston, S. C.
Greer Machinery Co., Knoxville, Tenn.
American Supply Co., Providence, R. I.
E. C. Atkins & Co., Indianapolis, Ind.

Mineral Wool.
Roanoke Mineral Wool Co., Roanoke, Va.
U. S. Mineral Wool Co., New York, N. Y.

Miscellaneous.
Engineer'g Employm't Bureau, Syracuse, N. Y
Gulf Bag Co., Ltd., New Orleans, La.
Corresp'ce School of Mechanics, Scranton, Pa.
Hartsfeld Furnace & Refining Co., Newport,Ky.
Miller Safe & Iron Works, Baltimore, Md.
Ault & Wiborg Co., Cincinnati, O.
Ernest Coates, New York, N. Y.
Jory & Co., Baltimore, Md.
Ed. N. Kirk Talcott, New York, N. Y.
C. J. Haden, Atlanta, Ga.
Southern Information Bureau, Boston, Mass.
F. S. Mordaunt Co., Chicago, Ill.
Plaza Hotel, New York, N. Y.
Chas. M. Stieff, Baltimore, Md.
Luray Artistic Wood Co., Luray, Va.
Fulton Colville, Atlanta, Ga.
Adams & Woodson, Lynchburg, Va.
Sanders & Stayman, Baltimore, Md.
Corporation Book Co., Philadelphia, Pa.
C. A. Gambrill Mfg. Co., Baltimore, Md.
The Bradstreet Co., Baltimore, Md.
Record Printing House, Baltimore, Md.
Salem Battery Co., Salem, Va.

Nail Pullers.
Belden Machine Co., New Haven, Conn.

Oils.
Lubroleine Oil Co., Baltimore, Md.
Kingan & Co., Richmond, Va.
Wm. C. Robinson & Son, Baltimore, Md.

ARCHITECTS, CIVIL ENGINEERS, MINING ENGINEERS, CHEMISTS, Etc.

ED. N. KIRK TALCOTT,
Civil and Mechanical Engineer,
57 BROADWAY, NEW YORK,

Will advise MANUFACTURERS as to desirable locations for particular lines and inspect and procure PLANTS for TOWNS wanting MANUFACTURERS. Special attention paid to the location, relocation or sale of Manufacturing Plants. Coal, Iron, Gold, Silver and other Mineral Properties examined and sold. Information given intending investors without charge. I have a number of desirable Properties for investment on my books at present. CORRESPONDENCE SOLICITED.

JULIAN KENNEDY,
Consulting and Contracting Engineer,
Rooms 36-39 Vandergrift Building, Pittsburgh, Pa.

Blast Furnaces, Bessemer and Open Hearth Steel Works, Rolling Mills, Steam and Hydraulic Machinery, Heating Furnaces, Gas Producers, &c.

BRANCH OFFICE OF THE LATROBE STEEL WORKS.

S. W. FRESCOLN,
ENGINEER AND CONTRACTOR,
WORLD BUILDING, NEW YORK.

DESIGNS AND BUILDS COMPLETE
Bridges, Iron Structures, Water Works, Sewerage and Street Work, Blast Furnace and Steel Plants; Steam, Electric and Cable Ry's.
BONDS NEGOTIATED. COMPANIES ORGANIZED. ESTIMATES F[illegible]

THE IRON-MASTERS' LABORATORY.
Established in 1866 in the Interest of Iron-Masters.
Exclusively for the Analysis of Iron Ores, Pig and Wrought Irons, Steels, Limestones, Clays, Coals and Slags for Metallurgical Purposes.
Branch Office, No. 339 Walnut Street, Philadelphia.
LABORATORY AT WARRENTON, VIRGINIA. J. BLODGET BRITTON.

C. R. MAKEPEACE & CO
Architects and Mill Engineers
PROVIDENCE, R. I. Plans, Specifications and Estimates furnished for Cotton & Woolen Mills.

DREW, BALDWIN & CO.
MILL ARCHITECTS & ENGINEERS
45 Broadway, New York.
Plans for Best Modern Mill Construction, Arrangement of Power, Machinery, Shafting, Rope Transmission, etc. Textile Mills a Specialty.

GUSTAF BOTTICER, Architect,
WINSTON, N. C.
Plans, Specifications, Estimates and Superintendence. Heavy Buildings a Specialty.

Charles H. Read, Jr.
ARCHITECT,
No. 12 N. Ninth Street, RICHMOND, VA.

WILSON & HUGGINS,
ARCHITECTS.
Correspondence Solicited.
ROANOKE, VA.

D. G. ZEIGLER,
ARCHITECT,
CHARLESTON, S. C.
Plans and Specifications furnished for all classes of Buildings. Correspondence cheerfully replied to. Remodeling of existing structures a specialty.

TEAGUE & MARYE,
ARCHITECTS.
Virginian Building, Norfolk, Va., Washington Ave. & 27th St., Newport News, Va.
Correspondence Invited.

If you wish to keep posted on the progress of the South read the MANUFACTURERS' RECORD. *Price $4.00 a year.*

A. G. BAUER,
Architect and Superintendent,
RALEIGH, N. C.

T. JASPER COLLINS. WM. T. HACKETT.
COLLINS & HACKETT,
Architects and Mechanical Engineers,
ROOMS 27 and 28 CROWLE BUILDING,
STAUNTON, VIRGINIA.
Drawings, Specifications and Superintendence Furnished for all kinds of Buildings, Machinery, &c., at Reasonable Rates.

EDW. BARRATH & CO.
Draughting and Engineering Office,
Architects & Mechanical Engineers,
MONADNOCK BLOCK, ROOM 1404.
Cor. Jackson & Dearborn Streets, Chicago, Ill.
Packing Houses a Specialty. Special Machinery designed. All kind of Iron and Steel Structures, Bridges, Trusses, Roofs, etc. Blue printing and drafting in general.

GRISWOLD & NUNAN,
Architects and Engineers,
Plans, Specifications, Superintendence and Guaranteed Estimates.
Surveys and Estimates of Roads, Railroads, Bridges and Mines. Correspondence solicited.
OWENSBORO, KY.

ADAMS & WOODSON
MANUFACTURERS
SASH, DOORS, BLINDS, PINE AND HARDWOOD FINISH FOR BUILDING. SHIPMENTS MADE TO ALL POINTS
WRITE FOR PRICES.
LYNCHBURG, VA.

45 Broadway, New York.
CONSULTING ENGINEER.
T. WALN-MORGAN DRAPER,
Civil, Mining and Mechanical Engineer.
Eighteen years' experience in the South and West. Examines, Advises and Superintends Commercial Enterprises. Correspondence and consultation solicited.

M. AM. Soc. C. E. M. AM. Soc. M. E.
OLIN H. LANDRETH,
NASHVILLE, TENN.
CONSULTING ENGINEER.
Water Works, Water Power, Drainage, Reclamation, Improvement of Highways and Street Paving, Topographical Surveys and Maps. Examinations, Expert Tests, Reports, Designs, Specifications and Estimates.

ALBERT D. PENTZ,
Mem. Am. Soc. Mech. Eng.
CONSULTING ENGINEER.
Modern Shop Practice and Tools
Labor Saving Machinery Designed.
ELIZABETH, N. J.

R. F. HARTFORD,
CONSULTING ENGINEER,
Equitable Building,
ATLANTA, GA.

Sewerage and Sewage Disposal.
Water Supply and Water Power.
Steam and Electric Power Plants.
Expert Tests, Examinations and Reports.
Plans, Estimates & Specifications.
Supervision of Work.

CALHOUN & CO.
Civil Engineers,
Contractors for the Construction of Railroads and Public Works.
119, 121 LaSalle Street, CHICAGO, ILL.

JOSIAH PIERCE, JR.
[A. M. I. C. E.]
Civil and Topographic Engineer,
1324 F St., Washington, D. C., and 11 South St., Balto., Md.
Topographic Surveys of any extent and character organized and executed.

ARTHUR L. STEVENS,
MECHANICAL ENGINEER,
11 South Ninth St., Philadelphia, Pa.
ICE MACHINERY AND REFRIGERATING PLANTS.
Special Machinery Designed and Built by Contract.

W. B. SMITH WHALEY,
Mechanical Engineer,
[MEM. A. S. M. E.]
Plans, Specifications and Drawings for Cotton Mills, Fertilizer Factories, Acid Chambers, &c. Power Plants—Steam, Water and Electrical. Water Powers Rated and Sites Surveyed.
Main Street, Columbia, S. C.

POWER MEASURED
By Dynamometer or by Steam Engine Indications. Boiler Testing for Evaporative Efficiency. Pumping Engines Tested. Factory Design and Construction. Plans made for Special Machinery.
GEORGE N. COMLY,
904 Adams Street, WILMINGTON, DEL.

JOHN N. ADAMS,
Civil Engineer and Contractor
606 N. 10th Street, RICHMOND, VA.

All kinds of engineering work contracted for and carried out on shortest notice, including designing and constructing. Surveys. Plans and estimates made for every class of engineering. Railroads. Water-powers developed. Sewerage and water supply. Mining surveys. Townsites laid off. Topographical, bird's-eye view maps and landscape engineering a specialty. Large staff of assistants always ready.
CORRESPONDENCE SOLICITED.

W. H. GIBBES, Jr. & CO.
ENGINEERS, CONTRACTORS,
AND DEALERS IN
Farm and Mill Machinery,
COLUMBIA, S. C

C. AD. MEZGER,
Mining Engineer,
P. O. Box 147, CHARLOTTE, N. C.
Reports on mineral properties. Advises on the working and management of mines. Examines and tests ores for treatment with the MacArthur-Forrest process. Dressing and concentrating of ores a specialty.

A. LEOFRED,
(Graduate of Laval and McGill.)
MINING ENGINEER,
MAIN OFFICE, - QUEBEC.
Branch Offices: SHERBROOKE. MONTREAL, 17 Place d'Armes Hill.
MINES, MINERAL PRODUCTS.

WALTER M. STEIN,
METALL. ENGINEER,
325 Walnut St., Philadelphia, Pa.
Coal Washing and Separating Plants.
Improved Belgian Coke Ovens, with or without saving of by-products.
Blast Furnace Plants.

JOHN C. CHASE,
Hydraulic & Sanitary Engineer
WILMINGTON, N. C.
Professional advice regarding Water Supply, Sewerage and the Development of Water Power. Surveys, Plans, Specifications, and Estimates. Examinations and Reports for Investors

THE LEDOUX CHEMICAL LABORATORY,
CHEMISTS,
No. 9 Cliff Street, New York.
Analyses of Paints, Oils, Chemicals, Phosphates, Fertilizers, Minerals, Waters, Pyrites, etc., etc. Expert Examinations and Investigations of Processes and Chemical Works. Send for terms.

Chemical and Metallurgical Examinations.
ANALYSES AND REPORTS.
FREDERIC P. DEWEY,
Washington Laboratory and Metallurgical Works,
621 F. Street, N. W. Washington, D. C.

JNO. M. McCANDLESS,
Analytical and Consulting Chemist
66 Old Capitol Building, ATLANTA, GA.
Chemist to the State Geological Survey.
Chemist to Atlanta Board of Health.
Analyses of Ores, Phosphates, Minerals, Waters, &c.

JOHN SANDERSON,
F. C. S. A. I. C.
Analytical Chemist and Assayer,
MIDDLESBOROUGH, KY.

DR. HENRY FROEHLING,
Analytical and Consulting Chemist,
17 SOUTH 12th STREET,
Richmond, Va.
Analyses and assays of ores of every kind, iron, steel and other metals, coal and coke, clays, marls and limestones, phosphates and fertilizers, mineral waters, waters for drinking and for boiler use, oils, commercial products, etc. Price lists of analyses sent on application. Geological and chemical investigation of mineral properties of the South.

Philadelphia Metallurgical Works,
No. 2227 Wood Street,
PHILADELPHIA, PA.
JOHN F. CARTER, Manager.
ASSAYS: Gold, Silver, Copper, Lead or Iron, $3.00; Zinc, Antimony or Tin, $5.00; Gold, Silver and Copper or Lead $6.00. Practical working tests of dry Gold and Silver ores. Gold mines in the South, and the economic treatment of their ores a specialty. Mines carefully examined and reported on. All kinds of the latest improved mining machinery furnished.

DR. WALTER TH. SCHEELE,
Formerly SCHEELE & Co.
Analytical & Consulting Chemist,
76 William St. / 174 & 176 Pearl St. } NEW YORK.
Assays of Ores, Metals and Metallurgical products of every description. Analyses of Water, Coal and Coke, Clays, Marls and Limestones, Phosphates and Fertilizers, Mineral Waters Oils, Commercial products. Formulas furnished for manufacturing purposes. Expert Chemist in Court Cases. Correspondence solicited. Ask for quotations.

ESTABLISHED 1890.
THE ENGINEERING EMPLOYMENT BUREAU,
GRANGER BLOCK, SYRACUSE, N. Y.
Furnishes Employers with Engineers, Superintendents, Chemists and Draftsmen, free of charge.
The first agency established for furnishing Engineering Help, exclusively.
PROMPT—HONEST—EXPERIENCED.

CLASSIFIED INDEX OF ADVERTISERS.

For "Alphabetical Index" see Page 46.

Ore Washers.
Beckett Foundry & Mch. Co., Arlington, N. J.
Copeland & Bacon, New York, N. Y.
McLanahan & Stone, Hollidaysburg, Pa.

Packing.
N. Y. Belt. & Pack. Co., Ltd., New York, N. Y.
Crandall Packing Co., Palmyra, N. Y.
Forest Sil. Bronze Pack. Co. New York, N. Y.
James Smith Woolen Mch. Co., Philadelphia, Pa.
Jenkins Bros., New York, N. Y.
H. W. Johns Mfg. Co., New York, N. Y.

Paint.
Standard Paint Co., New York, N. Y.
A. Rasch & Son, St. Louis, Mo.
Texas Coal Tar & Asphaltum Co., Dallas, Tex.
H. W. Johns Mfg. Co., New York, N. Y.
Canton Steel Roofing Co., Canton, Ohio.
Joseph Dixon Crucible Co., Jersey City, N. J.

Paint Machinery.
P. M. Walton, Philadelphia, Pa.
W. D. Dunning, Syracuse, N. Y.

Paper Mill Machinery.
Holyoke Stm. Boiler & I'n Wks., Holyoke, Mass.

Patent Attorneys.
Knight Bros., Washington, D. C.
W. T. Fitz Gerald, Washington, D. C.
Patrick O'Farrell, Washington, D. C.
S. Brashears, Washington, D. C.
Geo. P. Whittlesey, Washington, D. C.
Du Bois & Du Bois, Washington, D. C.
Donaldson & Co., Washington, D. C.
George E. Lemon, Washington, D. C.
Glascock & Co., Washington, D. C.
Champion & Champion, Washington, D. C.

Perforated Metal.
Harrington & King Perfor. Co., Chicago, Ill.

Phosphor-Bronze.
Paul S. Reeves, Philadelphia, Pa.

Pipe. (Cast Iron and Steel.)
Radford Pipe & Foundry Co., Cincinnati, O.
Howard-Harrison Iron Co., Bessemer, Ala.
John Simmons Co., New York, N. Y.
The Glamorgan Co., Lynchburg, Va.
Wells Rustless Iron Co., Little Ferry, N. J.
Chattanooga Fdy.& P.Wks.,Chattanooga, Tenn.

Pipe. (Sewer and Culvert.)
Henry Stevens's Sons, Macon, Ga.

Pipe. (Wood.)
A. Wyckoff & Son, Elmira, N. Y.

Pipe. (Wrought Iron.)
Oil Well Supply Co., Pittsburg and New York.

Pipe Covering.
Keasbey & Mattison Co., Ambler, Pa.
Delbert Engineer'g Co., Ltd., New Orleans, La.
H. W. Johns Mfg. Co., New York, N. Y.
A. Wyckoff & Son, Elmira, N. Y.

Pitch. (Roofing and Paving.)
Ehret-Warren Mfg. Co., St. Louis, Mo.
Texas Coal Tar & Asphaltum Co., Dallas, Tex.

Plaster. (Wall.)
Lone Star Plaster Co., Quanah, Texas.

Plumbers' Supplies and Tools.
Billings & Spencer Co., Hartford, Conn.
Thomas Devlin & Co., Philadelphia, Pa.
Charleston Lead Co., Charleston, S. C.
Brown & King Supply Co., Atlanta, Ga.
John Simmons Co., New York, N. Y.
Haines, Jones & Cadbury Co., Philadelphia, Pa.
Pancoast & Maule, Philadelphia, Pa.
D. Saunders' Sons, Yonkers, N. Y.

Presses. (Baling, etc.)
Van Winkle Gin & Machinery Co., Atlanta, Ga.
Central Machine Works, Cleveland, O.
Cardwell Machine Co., Richmond, Va.
H. Dudley Coleman Mch. Co.,Ltd.,New Orleans.
Boomer & Boschert Press Co., Syracuse, N. Y.
Valk & Murdoch Iron Works, Charleston, S. C.

Pulleys, Shafting and Hangers.
P. Pryibil, New York, N. Y.
Van Winkle Gin & Machinery Co., Atlanta, Ga.
Meridian Fdy. & Mch. Shops, Meridian, Miss.
Todd Pulley & Shafting Wks., E. St. Louis, Ill.
Philadelphia Eng. Works, Ltd., Philadelphia, Pa.
J. B. Allfree Mfg. Co., Indianapolis, Ind.
McKaig I. & S. Shaft. Wks., Cumberland, Md.
E. M. Freese & Co., Galion, O.
S. D. Warfield Co., Baltimore, Md.
Geo. R. Lombard & Co., Augusta, Ga.
C. & A. Potts & Co., Indianapolis, Ind.
Walker & Elliott, Wilmington, Del.
Webster Mfg. Co., Chicago, Ill.
Fitzsimons & Co., Cleveland, O.
Taper-Sleeve Pulley Works, Erie, Pa.
James Smith Woolen Mch. Co., Philadelphia, Pa.
Webster, Camp & Lane Machine Co., Akron, O.
H. W. Caldwell & Son Co., Chicago., Ill.
Walker Mfg. Co., Cleveland, O.
H. Dudley Coleman Mch.Co.,Ltd., New Orleans.
Talbott & Sons, Richmond, Va.
N. Y. Safety Steam Power Co., New York, N. Y.

Pumps. (Hand and Power.)
Otis Bros. & Co., New York, N. Y.
American Well Works, Aurora, Ill.
Deming Co., Salem, O.

Pumps. (Oil.)
Sherwood Mfg. Co., Buffalo, N. Y.

Pumps. (Steam.)
Delbert Engineer'g Co., Ltd., New Orleans, La.
John H. McGowan Co., Cincinnati, O.
Morris Machine & Iron Co., Dover, N. J.
Downie Bros. & Nevin, New Brighton, Pa.
Union Fdy. & Mch. Works, Rockaway, N. J.
Smith & Vaile Co., Dayton, O.
Morris Machine Co., Baldwinsville, N. Y.
Van Duzen & Tifft Co. Cincinnati, O.
American Well Works, Aurora, Ill.
John Maslin & Son, Jersey City, N. J.
Henry R. Worthington, New York, N. Y.
Pulsometer Steam Pump Co., New York, N. Y.
Valley Pump Co., Easthampton, Mass.
Dean Bros. Stm. Pump Wks., Indianapolis, Ind.
Blakeslee Mfg. Co., Du Quoin, Ill.
A. S. Cameron St. Pump Wks., New York, N. Y.
Boggs & Clarke, Syracuse, N. Y.

Punching and Shearing Machinery.
Long & Allstatter Co., Hamilton, O.
E. W. Bliss Co., Brooklyn, N. Y.
Lloyd Booth Co., Youngstown, O.
Niagara Stamping & Tool Works, Buffalo, N. Y.
Bement, Miles & Co., Philadelphia, Pa.
S. C. Forsaith Machine Co., Manchester, N. H.

Quarry and Stonecutting Machinery.
Beckett Foundry & Mch. Co., Arlington, N. J.
American Hoist & Derrick Co., St. Paul, Minn.
Copeland & Bacon, New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.
Morris Machine & Iron Co., Dover, N. J.
American Well Works, Aurora, Ill.
Gates Iron Works, Chicago, Ill.
Rand Drill Co., New York, N. Y.
Ingersoll-Sargeant Rock D. Co., New York,N.Y.
M. C. Bullock Mfg. Co., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Webster, Camp & Lane Machine Co., Akron, O.
Lincoln Iron Works, Rutland, Vt.

Railroads.
Illinois Central Railroad, Chicago, Ill.
Southern Pacific Railway Co., New Orleans, La.
Queen & Crescent Route, Cincinnati, O.
Cleveland, Canton & South'n R.R.,Cleveland,O.
Cincinnati,Hamilt'n&Dayt'n R.R.,Cincinnati,O.
Valley Railway, Cleveland, O.
Piedmont Air Line, Atlanta, Ga.
Western Maryland Railroad, Baltimore, Md.

Railroad Equipment and Supplies. (New and Second-Hand.)
A. S. Males & Co., Cincinnati O.
E. M. Hopkins, Savannah, Ga.
Pennsylvania Steel Co., New York, N. Y.
Maryland Steel Co., Sparrow's Point, Md.
W. W. Marmaduke, Washington, Ind.
International Rail'yEquip.& Sup.Co.,Yew York.
Southern Iron & Equipment Co., Atlanta, Ga.
A. T. Shoemaker, New York.
George Place Machinery Co., New York, N. Y.
George A. Evans, New York, N. Y.
J. H. Richardson & Co., Pittsburg, Pa.
Robinson & Orr, Pittsburg, Pa.
New York Equipment Co., New York, N. Y.
Weir Frog Co., Cincinnati, O.
Humphreys & Sayce, New York, N. Y.
Richmond Locomotive and Machine Works, Richmond, Va.
H. K. Porter & Co., Pittsburg, Pa.
Baldwin Locomotive Works, Philadelphia, Pa.
Wm. Minnigerode, Lynchburg, Va.
Webster Mfg. Co., Chicago, Ill.

Real Estate. [See *Towns*.]
A. M. Cochran, Gainesville, Ga.
J. A. Davis & Son, Port Deposit, Md.
L. Breckinridge Cabell, New York, N. Y.
McClure & Maxwell, Knoxville, Tenn.
Solon B. Turman, Tampa, Fla.
Geo. A. Hyde, Washington, D. C.

Regulators. (Water Pressure.)
H. Mueller Mfg. Co., Decatur, Ill.
Henry R. Worthington, New York, N. Y.

Road Machinery.
O. S. Kelly Co., Springfield, O.

Rolling Mill Machinery.
Thomas Carlin's Sons, Allegheny, Pa.
E. W. Bliss Co., Brooklyn, N. Y.
Covington Nachine Co., Covington, Va.
Union Foundry & Mch. Wks., Rockaway, N. J.

Roofing. (Felt, Tar, Paper, etc.)
A. Rasch & Son, St. Louis, Mo.
Sims Mfg. Co., Newark, Ohio.
H. W. Johns Mfg. Co., New York, N. Y.
Texas Coal Tar & Asphaltum Co., Dallas, Tex.
Ehret-Warren Mfg. Co., St. Louis, Mo.
Empire Paint & Roofing Co., Philadelphia, Pa.

Roofing and Siding. (Metal.)
Curtis Steel Roofing Co., Niles, O.
Fostoria Steel Roofing Co., Fostoria, O.
Cortright Metal Roofing Co., Philadelphia, Pa.
Acme Roofing Co., Canton, O.
Cushman Iron Co., Roanoke, Va.
Merchant & Co., Philadelphia, Pa.
J. H. Eller & Co., Canton, O.
Cincinnati Corrugating Co., Piqua, O.
Canton Steel Roofing Co., Canton, O.
Globe Iron Roofing & Cor. Co., Cincinnati, O.
Kanneberg Roofing Co., Canton, O.
Holton Iron Roofing Co., New Lisbon, O.
Cambridge Roofing Co., Cambridge, O.
The Berger Mfg. Co., Canton, O.

Roofing. (Metal Shingles.)
Montross Metal Roofing Co., Camden, N. J.

Roofers' and Tinners' Supplies.
Belden Machine Co., New Haven, Conn.
Berger Bros., Philadelphia, Pa.

Rubber Goods.
N. Y. Belt. & Pack. Co., Ltd., New York, N. Y.

Saws. [See *Woodworking Machinery*.]
Emerson, Smith & Co., Beaver Falls, Pa.
W. F. & John Barnes Co., Rockford, Ill.
E. C. Atkins & Co., Indianapolis, Ind.

Saw Mill Machinery.
Brownell & Co., Dayton, O.
J. I. Case Threshing Machine Co., Racine, Wis.
Mitts & Merrill, East Saginaw, Mich.
Wheland's Fdy.& Mch.Wks,Chattanooga,Tenn.
Manly Machine Co., Dalton, Ga.
Cameron & Barkley Co., Charleston, S. C.
Brennan & Co., Louisville, Ky.
H.Dudley Coleman Mchy.Co.,Ltd.,NewOrleans.
Greer Machinery Co., Knoxville, Tenn.
U. S. Machine Co., Williamsport, Pa.
Frick Co., Waynesboro, Pa.
Egan Co., Cincinnati, O.
S. C. Forsaith Machine Co., Manchester, N. H.
E. & B. Holmes, Buffalo, N. Y.

Scales.
Buffalo Scale Co., Buffalo, N. Y.

Scroll Saws. [See *Woodworking Machinery*.]
H. L. Beach, Montrose, Pa.
W. F. & John Barnes Co., Rockford, Ill.

Shafting. [See *Pulleys*.]

Sheet Metal Working Machinery.
Toledo Machine & Tool Co., Toledo, O.
Niagara Stamping & Tool Co., Buffalo, N. Y.
Geo. W. Heartley, Toledo, O.

Shingle, Lath and Stave Machinery. [See *Woodworking Machinery*.]
Mitts & Merrill, East Saginaw, Mich.
C. F. Thurber, Olean, N. Y.
E. & B. Holmes, Buffalo, N. Y.
Wheland'sFdy.&Mch.Wks.,Chattanooga,Tenn.
Brennan & Co., Louisville, Ky.
S. Adams & Son, Rome, N. Y.
Alvin Streeter, Winchendon, Mass.
Trevor Mfg. Co., Lockport, N. Y.
S. C. Forsaith Machine Co., Manchester, N. H.

Ship Builders. (Iron and Steel.)
Maryland Steel Co., Sparrow's Point, Md.

Shoe Machinery.
Carver Cotton Gin Co., East Bridgewater, Mass.

Skylights.
E. Van Noorden & Co., Boston, Mass.

Soapmakers'and Butchers' Machinery
Schubert & Co., Brooklyn, N. Y.
H. Wm. Dopp & Son, Buffalo, N. Y.

Sprinklers. (Automatic.)
Neracher & Hill Sprinkler Co., Warren, O.
Providence St. & Gas Pipe Co., Providence, R. I.

Standpipes.
Holyoke Stm. Boiler & I'n Wks., Holyoke, Mass.
Aultman & Taylor Machinery Co., Mansfield, O.
Sharon Boiler Works, Ltd., Sharon, Pa.
Ravenna Boiler Works, Ravenna, O.
Enterprise Boiler Co., Youngstown, O.
Philadelphia Eng. Wks., Ltd., Philadelphia, Pa.

Steam Feed. (For Saw Mills.)
Soule Steam Feed Works, Meridian, Miss.

Steam Riding Galleries.
Norman & Evans, Lockport, N. Y.
Armitage-Herschell Co., Hornellsville, N. Y.
Owen & Margeson, Hornellsville, N. Y.

Steam Shovels. [See *Dredges and Excavators*.]

Steamship Lines.
Richmond & York River Line, Baltimore, Md.
Murrell's Line, Brunswick, Ga.
Merchants & Miners' Trans. Co., Baltimore, Md.
Furness Line, Baltimore, Md.
Bay Line Steamers, Baltimore, Md.
Baltimore Storage & Light. Co., Baltimore, Md.

Steel Laths.
Bostwick Metal Lath Co., New York, N. Y.

Steel Rails. [See *Railroad Equipment and Supplies*.]
Pennsylvania Steel Co., New York, N. Y.

Tanks. (Iron and Steel.)
Brownell & Co., Dayton, O.
Holyoke Stm. Boiler & I'n Wks., Holyoke, Mass
Ravenna Boiler Works, Ravenna, O.
Tudor Boiler Mfg. Co., Cincinnati, O.
Enterprise Boiler Co., Youngstown, O.
Geo. R. Lombard & Co., Augusta, Ga.
Valk & Murdoch Iron Works, Charleston, S. C.
Golley & Finley Iron Works, Lima, O.
Sharon Boiler Works, Limited, Sharon, Pa.

Tanks. (Wood.)
W. E. Caldwell Co., Louisville, Ky.
Williams Mfg. Co., Kalamazoo, Mich.
U. S. Wind Engine & Pump Co., Batavia, Ill.

Tarred Goods.
Ehret-Warren Mfg. Co., St. Louis, Mo.
Texas Coal Tar & Asphaltum Co., Dallas, Tex.

Textile Machinery and Supplies.
Geo. W. Stafford Mfg. Co., Providence, R. I.
L. Godfrey, Providence, R. I.
Kilburn, Lincoln & Co., Fall River, Mass.
S. A. Dudley, Taunton, Mass.
Atlas Mfg. Co., Newark, N. J.
F. H. Potter, Providence, R. I.
Henry Popham & Son, East Newark, N. J.
Brown & King Supply Co., Atlanta, Ga.
Waters & Garland, Louisville, Ky.
Smith, Saunders & Collins, Newton, N. C.
James Smith Woolen Mch. Co., Philadelphia, Pa.
Lowell Machine Shop, Lowell, Mass.
Nye & Tredick, Philadelphia, Pa.
American Supply Co., Providence, R. I.
Crompton Loom Works, Worcester, Mass.
George Draper & Sons, Hopedale, Mass.
Whitinsville Spin. Ring Co., Whitinsville, Mass.

Tires.
Standard Steel Works, Philadelphia, Pa.

Tools for Machinists.
Billings & Spencer Co., Hartford, Conn.
L. S. Starrett, Athol, Mass.
C. F. Richardson, Athol, Mass.
Pancoast & Maule, Philadelphia, Pa.

Towns.
Washington, La.
Rocky Mount, N. C.
Curtis Bay (Baltimore), Md.
Columbus City, Ala.
North Wilkesboro, N. C.
Front Royal and Riverton, Va.

Trucks. [See *Wheelbarrows and Trucks*.]

Turbines. [See *Water Wheels*.]

Valves.
H. Mueller Mfg. Co., Decatur, Ill.
Jenkins Bros., New York, N. Y.
Ashley Engineering Co., New York, N. Y.
Ludlow Valve Mfg. Co., Troy, N. Y.
Wm. Powell Co., Cincinnati, O.
John H. McGowan Co., Cincinnati, O.

Ventilators. [See *Blowers and Exhaust Fans*.]
Merchant & Co., Philadelphia, Pa.
E. Van Noorden & Co., Boston, Mass.

Wagon Builders' Machinery and Supplies.
R. M. Whitney, Olean, N. Y.
Williamsport Machine Co., Williamsport, Pa.
Cordesman, Meyer & Co., Cincinnati, O.
H. L. Beach, Montrose, Pa.

Washers.
Milton Mfg. Co., Milton, Pa.

Water Closets.
Haines, Jones & Cadbury Co., Philadelphia, Pa.

Water Motors.
S. D. Warfield Co., Baltimore, Md.

Water Wheels and Turbines.
Burnham Bros., York, Pa.
Stilwell & Bierce Mfg. Co., Dayton, O.
S. Morgan Smith, York, Pa.
Kilburn, Lincoln & Co., Fall River, Mass.

Water Works and Sewerage.
S. W. Frescoln, New York, N. Y.
John N. Adams, Richmond, Va.
John C. Chase, Wilmington, N. C.
Olin H. Landreth, Nashville, Tenn.
Calhoun & Co., Chicago, Ill.
R. F. Hartford, Atlanta, Ga.

Well Tools and Supplies. (Artesian.)
Pech Mfg. Co., Chicago, Ill.
Oil Well Supply Co., Pittsburg and New York.
Golley & Finley Iron Works, Lima, O.
American Well Works, Aurora, Ill.
Rust Well Works, Ithaca, N. Y.
Williams [illegible], Ithaca, N. Y.
Deming Co., Salem, O.

Well Tools and Supplies. (Oil and Natural Gas.)
Oil Well Supply Co., Pittsburg and New York.

Wheelbarrows and Trucks.
Akron Tool Co., Akron, O.
Grand Rapids Wheel. Co., Grand Rapids, Mich.
Geo. P. Clark, Windsor Locks, Conn.
G. L. Stuebner & Co., Long Island City, N. Y.

Wind Engines.
Pech Mfg. Co., Chicago, Ill.

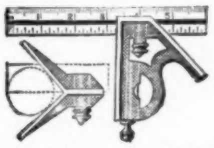
Wire, Wire Rope, Barbed Wire, etc.
Trenton Iron Co., Trenton, N. J.
Williamsport Wire Rope Co., Williamsport, Pa.
Ludlow-Saylor Wire Co., St. Louis, Mo.

Wire Goods.
Hartman Mfg Co., Beaver Falls, Pa.
H. Balderston & Son, Baltimore, Md.
Toledo Wire & Iron Works, Toledo, O.
J. E. Bolles & Co., Detroit, Mich.
Fred. J. Meyers Mfg. Co., Covington, Ky.
Dufur & Co., Baltimore, Md.
Ludlow-Saylor Wire Co., St. Louis, Mo.

Woodworking Machinery.
Van Winkle Gin & Machinery Co., Atlanta, Ga.
P. Pryibil, New York, N. Y.
Mitts & Merrill, East Saginaw, Mich.
Bentel & Margedant Co., Hamilton, O.
E. & B. Holmes, Buffalo, N. Y.
Linham Dado Machine Co., Mansfield, O.
Ober Lathe Co., Chagrin Falls, O.
H. B. Smith Machine Co., Smithville, N. J.
Indiana Machine Works, Fort Wayne, Ind.
John A. White Co., Dover, N. H.
Brennan & Co., Louisville, Ky.
Alvin Streeter, Winchendon, Mass.
J. M. Marston & Co., Boston, Mass.
Greer Machinery Co., Knoxville, Tenn.
U. S. Machine Co., Williamsport, Pa.
Smith-Courtney Co., Richmond, Va.
Pennsylvania Mch. Co., Ltd., Philadelphia, Pa.
Globe Machine Works, Cincinnati, O.
Greaves & Klusman, Cincinnati, O.
The Egan Co., Cincinnati, O.
Rowley & Hermance Co., Williamsport, Pa.
J. S. Graham & Co., Rochester, N. Y.
Trevor Mfg. Co., Lockport, N. Y.
S. C. Forsaith Machine Co., Manchester, N. H
Williamsport Machine Co., Williamsport, Pa.
Samuel J. Shimer, Milton, Pa.
Goodell & Waters, Philadelphia, Pa.
W. F. & John Barnes Co., Rockford, Ill.
H. L. Shepard, Cincinnati, O.
Josiah Ross, Buffalo, N. Y.

STARRETT'S FINE

TOOLS



Skilled mechanics prefer them—
Live dealers sell them—
Accurate—Well Made—Fine
Finish—The latest and best—
Send for Catalogue.

L. S. STARRETT,
Athol, Mass., U. S. A.

LEVELING & SQUARING INSTRUMENT.

SEND FOR PRICES.

C. F. RICHARDSON, Athol, Mass.

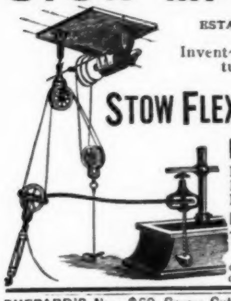
Manufacturers of Iron Levels and Carpenters' and Architects' Transits.

STOW MFG. CO.

ESTABLISHED 1875.

Inventors and Manufacturers of the

STOW FLEXIBLE SHAFT



Bingham'on, N.Y.

For TAPPING and REAMING STAY BOLTS in BOILERS, BRIDGEWORK, PORTABLE DRILLING.

Send for illustrated catalogue; many new devices.

SHEPARD'S New $60 Screw-Cutting FOOT LATHE.

GAP LATHE, $1.25

Foot and Power Lathes, Drill Presses, Scroll Saw Attachments Chucks, Mandrels, Twist Drills, Dogs, Calipers, etc.

Lathes on trial. Lathes on payment.

Send for catalogue of Outfits for Amateurs or Artisans.

Address H. L. SHEPARD, Agent.
41 W. 2d Street, Cincinnati, Ohio.

PATENTED MAY 13TH, 1884.

The "Swinging Hose Rack,"

PATENTEE & MANUFACTURER
JNO. C. N. GUIBERT,
ROOM 57, 115 BROADWAY
NEW YORK.
SEND FOR CATALOGUE

WE SELL NAIL PULLERS

—AND—

OTHER HARDWARE SPECIALTIES.

Please Send for Circular.

THE BELDEN MACHINE CO.
NEW HAVEN,
CONNECTICUT.

G. L. Stuebner & Co.

Successors to Stuebner & Woods,
MANUFACTURERS OF

Self-Dumping Steel & Iron Hoisting Tubs,

Side and Bottom Dumping Cars for Coal Elevators, Iron Wheelbarrows, Hoisting Blocks, Bottom-dumping Tubs for Coaling Locomotives, &c.

LONG ISLAND CITY, N. Y.
Send for circular and prices.

SOAP-DIES & PRESSES.
SOAP MACHINERY — SCHUBERT & CO. 11 Vine St. Brooklyn, N. Y. — CANDLE MACHINERY.
ESTIMATES & CATALOGUES FREE.

IRON AND STEEL

MADE

RUSTLESS.

RUSTLESS IRON WATER PIPE

Send for Catalogue.

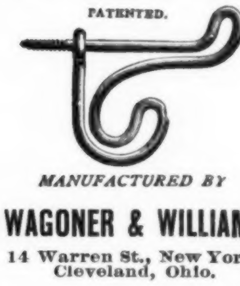
THE WELLS RUSTLESS IRON CO.
Little Ferry, N. J.

SEND FOR NEW PRICES

GEM WIRE

Coat and Hat Hooks

PATENTED.



MANUFACTURED BY

VAN WAGONER & WILLIAMS CO.
14 Warren St., New York.
Cleveland, Ohio.

Catalogue of Spring Hinges, Door Springs, Wire Coat and Hat Hooks, Blind Adjusters, &c., on application.

HOME STUDY OF

MINING

INCLUDING

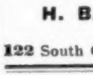
PROSPECTING.

Send for FREE Circular to The Correspondence School of Mines, Scranton, Pa.

WIRE RAILING,

WIRE SCREENS, WIRE CLOTH,
And All Kinds of WIRE WORK for Churches, Institutions, etc.

H. BALDERSTON & SON,
(ESTABLISHED 1793)
122 South Calvert Street, BALTIMORE, MD.



WIRE RAILING

AND

ORNAMENTAL WIRE WORKS.

DUFUR & CO., 311 N. Howard St., Baltimore.

Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Bedsteads, Chairs, &c.

The McNAULL UNIVERSAL RADIAL **DRILL**

Write for circulars to

McNaull Fdy. & Mach. Co.
RONCEVERTE,
W. Va.

PROTECT YOUR FACTORY FROM FIRE

with a system of

AUTOMATIC

SPRINKLERS

Write to us for Estimates.

NERACHER & HILL SPRINKLER CO.

COLUMBUS, GA.

Hill Pendant. WARREN, O.

H. WARD LEONARD & CO.

136 Liberty Street,
NEW YORK CITY.

Bulk Electric Contractors

FOR

COMPLETE PLANTS OF EVERY KIND,

Including Buildings, Steam Plants, Water Powers, Electric Generating Plants, Pole Lines, Underground Work, Road Beds, Bridges, Motors, Inside Wiring, etc.

Having no agencies and no connection with any manufacturing concern, we install any apparatus and any system desired.

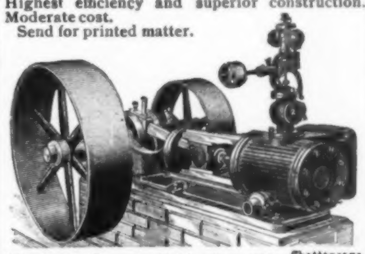
Nine years' experience.

ENGINES

STATIONARY AND PORTABLE.

10 to 75 Horse-power. For all purposes. Highest efficiency and superior construction. Moderate cost.

Send for printed matter.



Wheland's Foundry & Machine Wks. Chattanooga, Tenn.

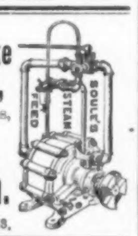
IF

You have tried to make money, sawing lumber, and have just paid expenses,

BUY A

SOULE STEAM FEED,

You will soon get rich.



SOULE STEAM FEED WORKS, MERIDIAN, MISS.

THE BEST THE "GARFIELD"

Double Jet Injector,

Adapted to every condition of Boiler service.

Address Lock 69. THE "GARFIELD" INJECTOR CO. WADSWORTH, O.

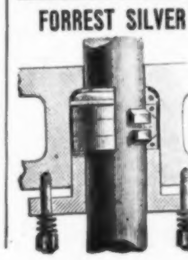
OILLESS BEARINGS.

Metalined Loose Pulley Bushes require no oil or other lubricant, either at the start or occassionally afterwards, will run perfectly dry for years. Send for Loose Pulley Circular No. 8.

Formerly of New York City.

North American Metaline Co., Long Island City, N. Y.

FORREST SILVER BRONZE PACKING.



Applied to any stuffing box without disconnecting. Steam, air and water-tight without the aid of soft packing, under highest steam pressure and piston velocity. Automatic, admits of excessive vibrations, lashing and crowding of rod, does not bind, economical, guaranteed to outlast all other packing. Used by largest Iron Works Steamships and Electric Light Companies for years. Agents wanted. FORREST SILVER BRONZE PACKING CO., 118 Liberty St., NEW YORK.

GULF BAG CO.

Limited.

DIRECT IMPORTERS

OF

BURLAPS.

New Orleans, La.

F. H. C. MEY

Chain Belting Engineering Works

APPROVED APPLIANCES FOR

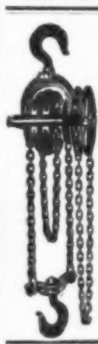
Elevating, Conveying and Transmission of Power, and Manufacturer of Elevator Buckets.

Especially adopted for elevating and conveying Ore, Coal, Coke, Broken Stone, Sand, Gravel, &c.

Send for REVISED Price List.

Mey Detachable Chain Belt. Pat. Feb. 7, 1888.

F. H. C. MEY,
Buffalo, N. Y.



MOORE'S ANTI-FRICTION
DIFFERENTIAL

CHAIN PULLEY BLOCK

A New Movement!
A Perpetual Compound Lever!
Powerful, Simple and Durable!
Light, Compact and Strong!
One Man can Lift to the Full Capacity of the Block.
Self Sustaining at Any Point.
The Block Always Hangs Plumb.

MOORE MFG. AND FOUNDRY CO.
MILWAUKEE, WIS.

Established 1867.

E. Harrington, Son & Co.

Works and Office,
N. 15th St. & Penna. Ave.
Phila., Pa., U. S. A.

Manufacturers of a full line of

Iron-Working MACHINERY,

INCLUDING

Extension and Gap Lathes, Planers with Quick Return, Drills, &c., Hand Power Elevators with Patent Brake, Double Chain Screw Hoists OVERHEAD TRAMWAY, with Switch, Turntable and Geared Truck.

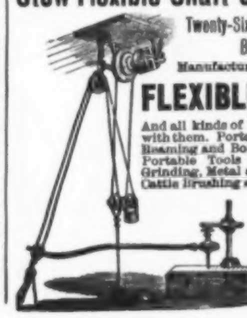
Gear Cutting a Specialty.
Send for estimates.

Stow Flexible Shaft Co., Limited,

Twenty-Sixth, Callowhill and Biddle Sts., PHILA., PA.

Manufacturers of

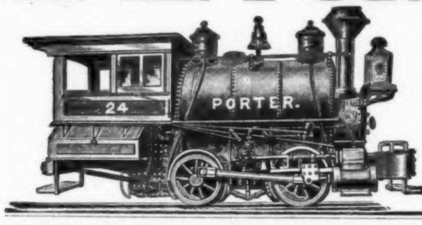
FLEXIBLE SHAFTS,



And all kinds of Machines to be used with them. Portable Drilling, Tapping, Reaming and Boring Machines. Also Portable Tools for Emery Wheel Grinding, Metal and Wood Polishing, Cattle Brushing and Clipping, &c.

Builders of Special Machines for Railroads, Bridge & Boiler Makers, Contractors, &c.

H. K. PORTER & CO., PITTSBURGH, PA., U. S. A.



Light Locomotives and Noiseless Motors

All guages of track for Passenger and Freight Service, Logging Railroads, Mines, Blast Furnaces, Steel Works, Coke Ovens, Contractors' Work and Plantations.

All sizes and patterns, adapted to steep grades and sharp curves. Noiseless and smokeless. Cheaper and more reliable and efficient, and less objectionable than electric or cable system.

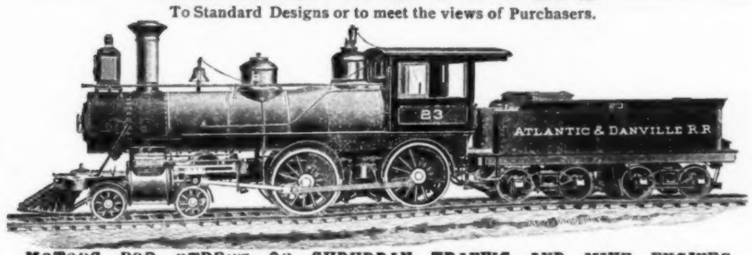
Photographs and illustrated catalogue on application. In writing mention MANUFACTURERS' RECORD.

Memo.—All work STEEL FITTED and built to duplicate system. Extra parts kept in stock. We keep on hand, ready for immediate shipment, LOCOMOTIVES AND MOTORS OF SEVERAL SIZES, WIDE OR NARROW GUAGE.

Established in 1865. **Richmond Locomotive & Machine Works,** RICHMOND, VA.

Builders of **LOCOMOTIVES** for every variety of service,

To Standard Designs or to meet the views of Purchasers.



MOTORS FOR STREET OR SUBURBAN TRAFFIC AND MINE ENGINES.
CORRESPONDENCE SOLICITED.

BALDWIN LOCOMOTIVE WORKS

Established 1831.

Annual Capacity 1000.

LOCOMOTIVE ENGINES, adapted to every variety of service and built accurately to standard guages and templates. LOCOMOTIVES FOR LOGGING Railroads and Sugar Estates.
COMPOUND LOCOMOTIVES.
STEAM TRAMWAY MOTORS, MINE LOCOMOTIVES, FURNACE LOCOMOTIVES.
BURNHAM, WILLIAMS & CO., Proprietors, 500 N. Broad St., **Philadelphia, Pa.**

STEEL RAILS

PENNSYLVANIA STEEL COMPANY

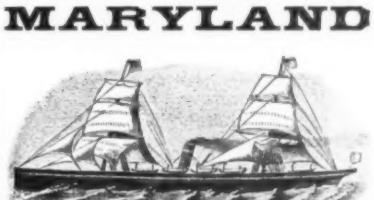
Standard Sections 50 to 80 lbs. per yard
Light Sections 16 „ 45 „ „ „
Street Rails 30 „ 88 „ „ „
Fish Plates, Bolts & Nuts,
Frogs, Switches and Crossings.

STEPHEN W. BALDWIN SALES AGENT — NO. 2 WALL STREET NEW YORK N.Y.

CHAS. S. CLARK, Sales Agent, — 16 lbs. Full Size. — 70 Kilby Street, Boston, Mass.

MARYLAND STEEL CO.

Works at Sparrow's Point, Maryland,
Manufacturers of



STEEL RAILS
and BILLETS,

Also Iron and Steel Steam and Sailing Vessels of every description. Tow Boats for Harbor and Ocean Service.

Marine Repair Work a Specialty.

GENERAL OFFICES:
PHILADELPHIA, 208 South Fourth Street. NEW YORK, 2 Wall Street, cor. Broadway.
BOSTON, 70 Kilby Street, Mason Building.

P. KENNEDY, President. M. FLYNN, Vice-President.

BALTIMORE MALLEABLE IRON & STEEL CASTING CO.

A SUBSTITUTE FOR
STEEL AND WROUGHT FORGINGS
The Best Refined Air Furnace Iron Made.
Special attention will be given to Fine Steel Bicycle and Tool Work.
BALTIMORE, MD.

WILLIAMSPORT WIRE ROPE CO.

MANUFACTURERS OF
Iron, Steel and Galvanized
WIRE ROPE
STREET CABLES A SPECIALTY.
WILLIAMSPORT, PA.
Correspondence Solicited with Southern Coal and Quarry Companies.

STEEL CASTINGS

FROM 1-4 TO 15,000 POUNDS WEIGHT.

True to pattern, sound, solid, free from blow-holes and of unequalled strength. Stronger and more durable than iron forgings in any position or for any service whatever. **60,000** CRANK SHAFTS and **50,000** GEAR WHEELS of this Steel now running prove this.
Cross-Heads, Rockers, Piston-Heads, &c., for Locomotives STEEL CASTINGS of every description.
Send for Circulars and prices to

CHESTER STEEL CASTINGS CO.
Works, Chester, Pa. Office, 407 Library St., Philadelphia, Pa.

WIRE ROPE

FOR ALL PURPOSES
IRON AND STEEL WIRE OF ALL KINDS
TRENTON IRON CO.
TRENTON, N.J.
NEW YORK OFFICE
COOPER HEWITT & CO.
17 BURLING SLIP
WIRE ROPE TRAMWAYS &c.

HOOPES & TOWNSEND,

Philadelphia, Pa.

MAKE RIVETS

in Solid Dies.

No. 9 x 1/4 in. to 1 1/2 x 42 in.

THE HOOPES & TOWNSEND CO., Wilmington, Del.

THE AMERICAN IMPROVED ANTI-FRICTION METAL CO.

MANUFACTURERS of the best metal for journal bearings of any kind—especialy for Steamships, Railroad and Street Cars, Sugar Mills, Rolling Mills, Saw Mills, etc. Especially adapted to high speed journals. This metal is warranted not to HEAT OR CUT the journals, and its lasting qualities make it superior to any other metal. Its excellence makes it the most economical metal.

It is Self-Lubricating.
It is tougher and more durable than all other metals.
It is the best metal known where great pressure is required.
It runs with less friction than any other metal.
It will stand the highest rate of speed and will not heat or cut.
In general use everywhere and gives universal satisfaction.

Office and Works, MOBILE ALA. New York Office, 11 Wall Street. Agencies in all the Principal Cities.
WHELANDS FOUNDRY & MACHINE WORKS, Chattanooga, Tenn.

SOMETHING NEW ON LUBRICATION!

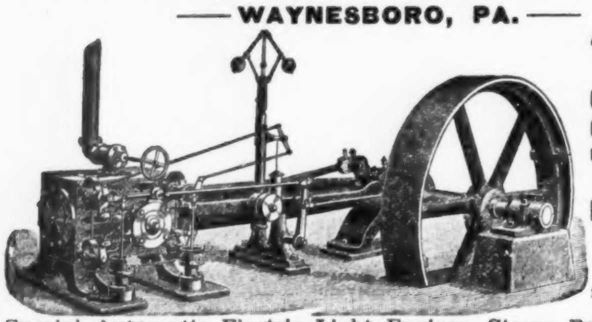
Let us send you our new pamphlet on Lubrication. It is sent FREE of Charge, and contains Scientific and Practical Information of great Interest and value.

JOS. DIXON CRUCIBLE CO., JERSEY CITY, N. J.

ECLIPSE CORLISS ENGINES.

Frick Company, Engineers, Builders,

—WAYNESBORO, PA.—



40 to 1,000 H. P. Made.

Condensing, Non-Condensing & Compound.

☞Send for Corliss Circular.

Ice-Making and Refrigerating Machinery.

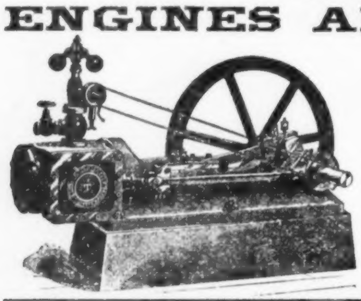
Send for Ice-Machine Circular.

Special Automatic Electric Light Engines, Steam Boilers, Traction and Portable Engines, Saw Mills. Send for our General Catalogue.

FOR THE LOWEST PRICED FIRST-CLASS

ENGINES AND BOILERS

ADDRESS



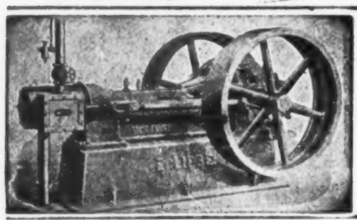
GEO. W. TIFFT, SONS & CO.

BUFFALO, N. Y.

5 to 500 H. P. Special Stock Sizes 5 to 50 H. P.

BOTH STATIONARY AND SEMI-PORTABLE.

A few good Second-Hand Engines and Boilers are for sale at an a tonishing'y low figure. Must be sol! to make room for stock. Correspondence solic.ted. Mention this paper.



GREER MACHINERY CO.

Knoxville, Tenn.

Wholesale Automatic, Co fss and Hoisting

ENGINES

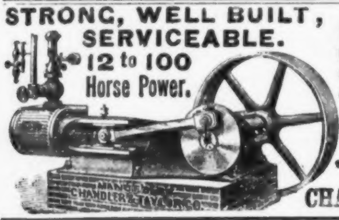
Stationary and Portable

Engines and Boilers, Saw and Grist Mills,

Woodworking Ma hinery &c.

STRONG, WELL BUILT, SERVICEABLE.

12 to 100 Horse Power.



STEAM ENGINES

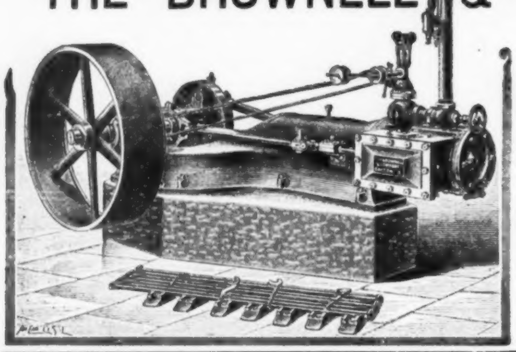
ADAPTED TO HEAVY, CONTINUOUS WORK.
EVERY ENGINE TESTED UNDER FULL LOAD

SUITABLE TUBULAR and FIREBOX **BOILERS** on hand for immediate delivery.

FOR DESCRIPTIVE CATALOGUE ADDRESS

CHANDLER & TAYLOR CO., INDIANAPOLIS, IND.

THE BROWNELL & COMPANY



MANUFACTURERS OF

Engines, Boilers

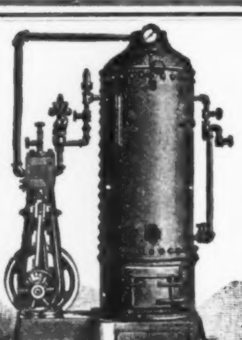
SAW MILLS

AND

Sheet Iron Work

SEND FOR CATALOGUE.

Dayton, Ohio.



WELLS ROGERS, Prest. A. H. GEBERT, Secty. E. E. CLINE, Supt

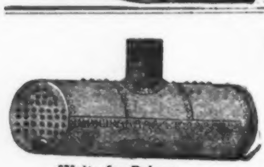
THE CLINE

ENGINE and MACHINE CO.

Manufacturers of Upright and Horizontal, Stationary and Marine Engines and Boilers of all sizes. Hoisting Machinery with Double and Single Engine and Drum. Power Pottery Wheels and Special Machinery built to order.

Works on P. A. & W. near Junction with B. & O.

PLYMOUTH, OHIO.



Write for Prices.

THE RAVENNA BOILER WORKS,

MANUFACTURERS OF ALL KINDS OF

Steam Boilers and Tanks,

Stills and Agitators, Plate and Sheet Iron Work of Every Description.

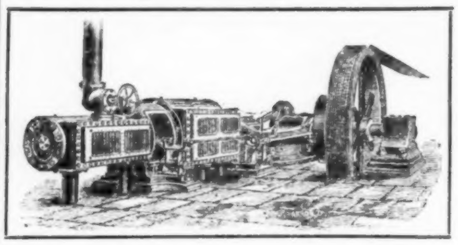
RAVENNA, OHIO.

William Tod & Co.

YOUNGSTOWN, OHIO.

The Porter-Hamilton Engine.

Single, Compound and Condensing.



BLOWING ENGINES.

Hydraulic Cranes and Accumulators.

Engine Catalogue on Application.

Heavy Special Machinery.

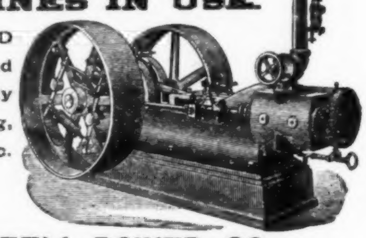
STEAM ENGINES AND BOILERS

If you want the very best engine there is made, go direct to the builders, 30 Cortlandt street, New York, and get a NEW YORK SAFETY STEAM POWER CO. VERTICAL ENGINE for 2 to 20 horse power, or a HORIZONTAL AUTOMATIC ENGINE for 20 to 250 horse power. These Engines have the fewest possible wearing parts, all of which are in sight and easily accessible, which is what every intelligent engineer wants.

6,000 ENGINES IN USE.

☞ENGINES AND BOILERS Erected and Connected ready to run, also Shafting, Pulleys, Belting, Etc.

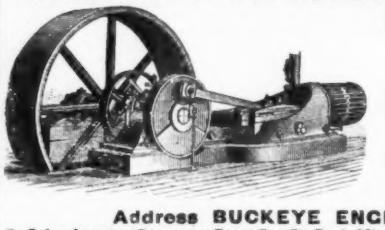
Send for price list.



N. Y. SAFETY STEAM POWER CO.

Also, 64 South Canal St., Chicago. 30 Cortlandt Street, New York.

The BUCKEYE AUTOMATIC CUT-OFF ENGINES



SLOW SPEED, MEDIUM SPEED, AND HIGH-SPEED ENGINES.

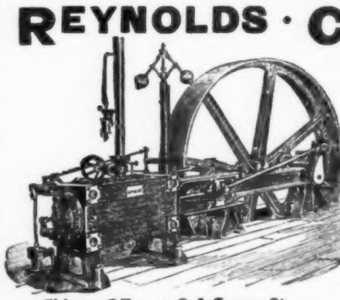
Simple, Compound and Triple Expansion Engines, High-Pressure Boilers.

Complete Steam Power Plants of Highest Attainable Efficiency.

Address BUCKEYE ENGINE CO., Salem, Ohio.

Or Sales Agents—ROBINSON CARY CO., St. Paul, Minn.; N. W. ROBINSON, 97 Washington St., Chicago, Ills.; A. M. MORSE, 511 Commercial Bldg., St. Louis, Mo.; JAS. CREIGHTON, 615 1st St., Louisville, Ky.; CHATTANOOGA SAW WORKS, Chattanooga, Tenn.; H. T. PORTER, No. 10 Telephone Bldg., N. Y.

REYNOLDS · CORLISS · ENGINE.



Chicago Office, 43 S. Jefferson St.

Built of any required size, from 20 to 2,000 horse power and upwards. Horizontal or upright, to suit any location.

Non-Condensing, Condensing, Compound, Triple Expansion, or

QUADRUPLE EXPANSION.

Write for Catalogue and list of users.

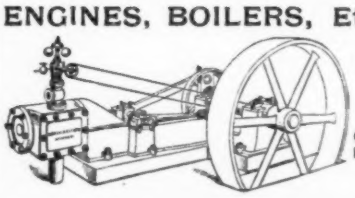
The EDWARD P. ALLIS CO.

Reliance Works.

MILWAUKEE, WIS.

MACHINERY WOOD AND IRON WORKING.

ENGINES, BOILERS, Etc. Supplies Generally.



LEATHER, RUBBER AND COTTON BELTING

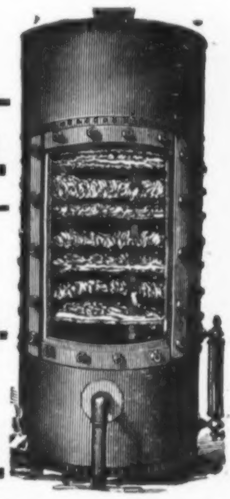
A Specialty. Write for Prices.

SMITH-COURTNEY CO.

RICHMOND, VA.

Stilwell's Patent

Lime Extracting **HEATER AND FILTER** Combined.



The Only Lime Extracting Heater That Will Prevent Scale in Steam Boilers.

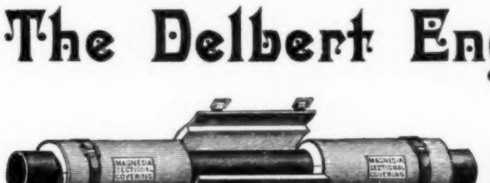
Removing all impurities from the water before it enters the boiler.

Thoroughly Tested. Over 3,000 of Them in Daily Use.

This cut is a fac-simile of the appearance of the shelves of a No. 5 Heater at work on ordinary lime water, when the door was removed after the Heater had been running two weeks. ☞ Illustrated catalogue free.

STILWELL & BIERCE MFG. CO., DAYTON, O.

The Delbert Engineering Co., Limited. New Orleans, La.



Save Steam. Avoid Condensation. Do away with Cracking and Drying ot Woodwork in Factories or on board Steamers, Tugs, etc., by using the

MAGNESIA SECTIONAL PIPE AND BOILER COVERINGS.

IN USE IN NAVY AND PUBLIC BUILDINGS.

BARR STEAM PUMPING MACHINERY FOR WATER WORKS AND ALL PURPOSES.

STEAM BOILERS, CORLISS ENGINES, HEATERS AND INJECTORS.

Improved Triple · Draught · Tubular Boilers.

PLATE IRON WORK

OF ALL KINDS.

STAND PIPES, TANKS, PENSTOCKS, WHEEL CASES, SMOKE PIPES.

Paper Mill Machinery.

WRITE US FOR INFORMATION.

HOLYOKE STEAM BOILER & IRON WORKS,

HOLYOKE, MASS.

T. H. SEARS, MANAGER.

ENGINES & BOILERS

Stationary & Semi-Portable.

8 to 25 HORSE-POWER.

High in Grade.

Low in Price.

Send for Pamphlet.

The **W. C. LEFFEL CO.**

Greenmount Ave., Springfield, O.

ABRAM'S EXPANSION FLUE BRUSH.

Made of Malleable Iron and Tempered Steel.

Guaranteed not to Break.

Manufactured only by the

ST. LOUIS STEEL WIRE BRUSH CO.

Ready for Use

Construction of Brush.

ST LOUIS, MO.

HIGH GRADE AUTOMATIC CUT-OFF ENGINES.

No other engine has a perfectly balanced valve.

OUR GUARANTEE. WHO DARE MEET IT?

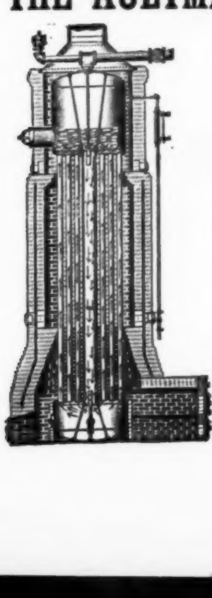
The engine shall not run one revolution slower when fully loaded than when running empty, and a reduction of boiler pressure from the greatest to that necessary to do the work, will not reduce the speed of engine one revolution. Any engine failing to meet this guarantee becomes the property of the purchaser upon payment of one dollar. Send for Catalogue.

SIMPLE, TANDEM AND CROSS **COMPOUNDS**

Branch Offices. { 141 Liberty St. New York, N.Y. / 1412 Washington Ave. St. Louis, Mo.

J. H. McEWEN MFG. CO. RIDGWAY, PA.

THE AULTMAN & TAYLOR MACHINERY CO.



MANSFIELD, OHIO, U. S. A.

SOLE BUILDERS OF THE

COOK PATENT

Water Tube Boiler

The Only Perfect Waste-Heat Boiler.

No incrustation. Generates the greatest amount steam with least amount of heat. Repairs reduced to a minimum. Can be used equally as well for direct firing or with natural gas.

We are also Builders of

HORIZONTAL, TUBULAR AND FLUE BOILERS, LOCOMOTIVE, FIRE BOX and all Other Styles of BOILERS, OIL TANKS and WATER STAND PIPES.

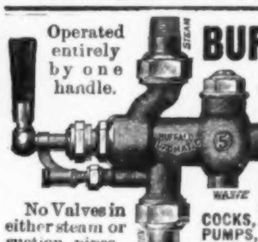
Estimates furnished promptly on receipt of specifications.

BOILERS

With Rivet Holes Drilled After Plates are Bent and in Position, Tanks and Sheet Iron Work, Engines, Cotton Gins and Presses, Machinery for Fertilizer Works and Phosphate Washers, &c.

VALK & MURDOCH IRON WORKS, Charleston, S. C.

BUFFALO AUTOMATIC INJECTOR



Operated entirely by one handle.

No Valves in either steam or suction pipes.

A GRADING INJECTOR.

Construction and operation is such that water supply is always in proportion to supply of steam admitted and can be graded to feed continuously with steam from 20 to 140 pounds. Works perfectly whether lifting or taking supply from city pressure. Operated entirely by one handle, both in stopping and starting and grading supply of steam and water.

EAGLE EJECTORS, DUPLEX FLUE SCRAPERS, FELTHOUSEN GAUGE COCKS, IMPROVED GLASS OIL CUPS AND LUBRICATORS, CYLINDER OIL PUMPS, COMPRESSION GREASE CUPS, Etc. Send for Catalogue. Mention this Paper.

SHERWOOD MFG. CO., Buffalo, N. Y.

GLENFIELD'S BOILER CLEANSING FLUID.

It Preserves Boilers, Lessens the Risk of Explosions and Saves Fuel.

GLENFIELD'S BOILER COMPOSITION. GF

A Scale Exterminator and Iron Preserver for marine and land purposes. Removes and prevents incrustation of salt and fresh water. Eliminates all deleterious matter. Prevents pitting and priming. Scientific tests and practical use commend it.

Used also in Breweries and Distilleries, and acts as a strong disinfectant.

It has been used for more than thirty years by all the large Atlantic Steamship Lines and great Railways of England.

KEHRHAHN & CO., 2 S. Holliday St., Baltimore, Md., Sole Agents for U. S.

"The MANUFACTURERS' RECORD is the Most Widely-Quoted Industrial Paper in the World."

MANUFACTURERS' RECORD.

[Name Patented 1889.]

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXII. No. 23. WEEKLY. | BALTIMORE, JANUARY 6, 1893. | $4.00 A YEAR. SINGLE COPIES, 10 CENTS.

THE SOUTH IN 1892.

A STATISTICAL REVIEW OF SOUTHERN TRADE AND INDUSTRY.

In preparing our annual statistical review of Southern affairs this year, we have sought to simplify our statistics as much as possible to avoid burdening our readers with a mass of figures that are devoid of value or interest. We have confined our review to such interests as permit of the presentation of definite facts and figures, and we have presented only such statistics as we have been able to gather from authentic sources. We have not engaged in guessing at figures about which no definite knowledge can be had by ourselves or anybody else, nor have we attempted to round up all the miscellanaous census and unofficial statistics that have been floating about during the past year. It is our belief that our readers will better appreciate concise and intelligible figures than pages of undigested and meaningless figures. Neither time, labor nor expense has been spared in our effort to do well what we have undertaken.

NEW INDUSTRIES IN THE SOUTH.

A Decrease in the Number of New Enterprises Established During 1892.

The record of new industrial enterprises established in the South during 1892 shows a total of 2688, as compared with 3241 in 1891, a decrease of 553. The figures for seven years past are as follows:

1886	1,575
1887	3,430
1888	3,618
1889	5,135
1890	3,917
1891	3,241
1892	2,688

The table given below shows the character of the industries and number of each established during 1892 as compared with 1891:

	1892.	1891.
Iron furnaces	2	8
Machine shops and foundries	82	89
Stove foundries	4	8
Miscellaneous iron and steel works	48	57
Woodworking establishments	630	494
Furniture factories	20	50
Carriage and wagon works	11	36
Agricultural implement works	7	16
Mining and quarrying concerns	261	550
Flour mills	117	62
Textile mills	75	67
Cotton compresses	20	23
Cottonseed-oil mills	43	31
Brick works	81	147
Canning factories	57	61
Ice factories	68	74
Electric-light and power plants	121	165
Gas works	5	24
Water works	101	108
Miscellaneous enterprises not in above	929	1171
Total	2688	3241

While the figures for the past year show a considerable falling off from the figures of 1892, this does not indicate a depressed condition in the South, nor can it be taken as evidence of any retrograde movement in Southern industrial interests. On the contrary, there is unusual activity in every line of industrial enterprise in the South at the present time, and every indication points to a degree of activity during the coming year greater than has ever been known before.

The past year has been a period of rigid economy in every line of business in the South, and more attention has been paid to the placing of existing industries upon a firm foundation than to the projection of new industries. This has been essentially the work of the past year. The decrease in new enterprises, moreover, has been less than our figures indicate, for we have followed a more conservative plan in reporting new industries during the past year, including in our records only those of whose genuineness there was no doubt. This course has materially reduced the showing for the past year.

During the past year the groundwork has been laid for much broader accomplishments in the future. The settlement of vexatious political issues, the greater amount of cash which the present cotton crop is yielding to the producers, the greater abundance of money and more extended credit in the South and the activity and prosperity which mark every branch of industry in that section are the conditions upon which the course of affairs in the South during the year 1893 will depend. With conditions as favorable as these are generally recognized to be there can be no doubt of the very promising prospects which lie before the South at this time. Every condition needful for successful business in the South exists at present, and the year 1892 closes with a very satisfactory record of progress that has been made under trying circumstances and with brilliant prospects for the coming year.

RAILROAD INTERESTS OF THE SOUTH.

New Construction, Important Financial Events, Consolidations, Earnings and other Data.

The South makes a good showing in the matter of railroad construction during 1892, notwithstanding the adverse conditions which have been encountered in the South to a greater extent, possibly, than in any other section. The year has been a bad one for railroad building all over the country, and the new mileage added during the year, small as it is when compared with previous years, is larger than many expected before the figures became known. Under the circumstances the decrease of 10 per cent. in the new mileage of the entire country, as compared with 1891, is not surprising. In the South the notorious financial entanglements of the Richmond Terminal, which controlled a large proportion of the mileage of this section, created a feeling of uncertainty and distrust among capitalists and greatly hampered the promotion of all new railroad enterprises. The after-effects of the financial disturbances of the previous year and the inimical legislation in several States were additional factors in retarding railroad progress.

The railroad construction in the South for five years is given in the following table. We are indebted to the *Railway Age* for the figures for 1892; the others are from Poor's Manual:

RAILROAD CONSTRUCTION IN THE SOUTH.

	1888. Miles	1889. Miles	1890. Miles	1891. Miles	1892. Miles
Maryland	13	24	46	3	20
Virginia	156	289	167	200	23
West Virginia	53	53	104	120	204
North Carolina	210	315	272	106	56
South Carolina	199	48	170	203	33
Georgia	430	338	356	294	67
Florida	154	139	120	86	146
Alabama	383	169	281	162	20
Tennessee	201	172	122	224	65
Louisiana	42	157	104	153	121
Kentucky	303	194	171	31	35
Texas	241	295	223	131	211
Arkansas	82	97	70	105	44
Mississippi	88	158	74	......	8
Total	2555	2448	2280	1818	1053
Total for United States	7066	5695	5670	4471	4062

From this it is seen that of the aggregate new construction for five years in the entire country, amounting to 26,964 miles, there were 10,154 miles built in the South, or nearly 38 per cent. The new construction in the South for 1892 is about 25 per cent. of the total.

Indications point to a much greater activity in railroad building during the new year, as the unfavorable conditions have in large measure disappeared and with them the extreme conservatism of capital. Many projects upon which work was suspended because of inability to withstand the financial pressure will be carried forward to completion this year. Extensions and new lines of much promise, for which preliminaries have been arranged, representing a large total mileage, are also likely to be consummated during 1893.

IMPORTANT ITEMS OF CONSTRUCTION.

The past year was notable for the completion of some important railroad enterprises, affording additional conveniences and competitive rates to numerous points, opening up new and resourceful territory and giving transportation facilities to sections hitherto unprovided. Quite a number of these lines are of such a character as to exercise a stimulating influence upon the business and the development of the country traversed. We append a summary of some of the important projects finished during the year:

The Savannah, Americus & Montgomery completed to Montgomery, Ala.

Nashville, Chattanooga & St. Louis built its Tennessee & Coosa branch to Guntersville, Ala., making a direct railway connection from Rome, Ga., to the Tennessee valley. It has also about finished an extension from Huntsville, Ala., to the Tennessee river.

Georgia, Carolina & Northern built a belt line at Atlanta, Ga., enabling the Seaboard Air Line to run into that city.

Ohio & Big Sandy completed a sixteen-mile extension in Kentucky.

Ohio Valley built a ten-mile line from Gracey to Hopkinsville to make connections for a newly leased line.

The Kansas City, Watkins & Gulf completed its line between Lake Charles and Alexandria, La., a distance of ninety-eight miles, giving the latter city a new trunk line.

The New Orleans & Northwestern built from Bastrop to Collins, La.

The Western Maryland completed its Potomac Valley branch, which affords a desirable connecting link between the B. & O. and Reading systems.

The Wilmington & Weldon built a branch from Washington, N. C., to Bethel, N. C., twenty-four miles.

The Charleston, Sumter & Northern built a line from Bennettsville, S. C., to Gibson Station, N. C., which affords the connecting link for the entrance of the Seaboard Air Line into Charleston, S. C., and places that city on almost an air line to Norfolk and the North.

The Morristown & Cumberland Gap completed from Morristown to Corryton, Tenn., forty miles.

Louisville & Nashville completed its Clarksville Mineral branch.

Paducah, Tennessee & Alabama built to Lexington, Tenn., forming a route from Memphis to Paducah, Ky.

Bristol, Elizabethton & North Carolina completed its line between Bristol and Elizabethton, Tenn.

Chicago, Rock Island & Pacific completed its extension from Minco, I. T., to Bowie, Texas, affording a new route to Chicago.

The Austin & Northwestern Railroad built from Fairland to Llano, Texas, giving an outlet to the Llano mineral district.

The Iberia & Vermillion, a road twenty-one miles long, extending from New Iberia to Abbeville, La., and traversing an exceptionally rich agricultural country, was finished and opened for traffic.

The third largest cantilever bridge in the world, and one of the most important enterprises ever planned in the Southwest, was opened to the public on May 12 at Memphis, Tenn. This is the Memphis bridge spanning the Mississippi river at that place, and the only bridge across that stream south of Cairo, Ill.

Baltimore & Ohio widened the gage of the Grafton & Greenbrier.

Richmond, Nicholasville, Irvine & Beattyville opened for operation to Irvine, making the completed mileage sixty-two miles.

Ohio River Railroad of West Virginia opened its new line from Guyandotte to Huntington.

Huntington & Big Sandy completed from Huntington to Kenova, W. Va., and opened for traffic.

Kanawha & Michigan extended to a connection with the Chesapeake & Ohio, giving important facilities to the Kanawha valley coal region.

Missouri, Kansas & Texas completed a branch from Smithville to Lockhart, thirty-six miles, and from Boggy Tank to Sealy, twenty-seven miles.

La Porte, Houston & Northern, La Porte to Houston, twenty-two miles, and North Galveston, Houston & Kansas City, North Galveston to Virginia Point, sixteen miles, nearing completion and will connect, forming a new route from Houston to deep water.

West Virginia & Pittsburg completed to Camden-on-Gauley, W. Va.

Jacksonville, St. Augustine & Indian River built to New Smyrna, Fla.

Louisville, St. Louis & Texas has nearing completion a

short line by which it will secure an independent entrance into Louisville, Ky.

The State Line branch of the Baltimore & Ohio from Uniontown, Pa., to Morgantown, W. Va., practically completed, and is expected to prove a valuable factor in West Virginia mineral development.

The year also saw the completion of one of the most notable achievements in Southern railroad construction—the Ohio extension of the Norfolk & Western.

EARNINGS AND EXPENDITURES OF SOUTHERN RAILROADS.

The conditions affecting railroad traffic in the South during the past year have not been conducive to large business or satisfactory earnings. While there has been no great shrinkage in the aggregate volume of business, rates have been unremuneratively low in many instances, and the general demoralization of Southern railroad interests has manifested itself directly in the proceeds of traffic. We have gathered into the following table the gross earnings of thirty-three Southern railroads for eleven months of two years past, and a glance at these figures will show clearly the condition of Southern roads during the past year:

GROSS EARNINGS FOR ELEVEN MONTHS ENDED NOVEMBER 30.

	1891.	1892.	Increase.	Decrease
Ala. Great Southern.	$1,684,015	$1,552,235	....	$131,780
Ala. & Vicksburg....	608,927	527,912	....	81,015
B. & O. Sou'western.	2,266,255	2,418,712	$152,457	....
Birm'ham & Atlantic	46,912	37,870	....	9,042
Carolina Midland...	58,984	58,232	....	752
Char.,Cin.& Chicago	147,682	133,666	....	14,016
Char.,Sum. & North.	121,020	135,210	14,190	....
Chesapeake & Ohio.	8,507,031	8,747,805	239,774	....
Ches.,Ohio & S'w'n.	2,136,235	2,047,168	....	89,067
Cin.,N.O.& Tex.Pac.	3,856,343	3,731,319	....	125,024
Ft.W'th& R.Grande.	296,653	351,463	54,810	....
Ga. Southern & Fla.	684,707	696,358	11,651	....
Gulf & Chicago......	39,485	32,981	....	6,504
Int. & Great North'n	3,689,576	3,677,922	....	11,654
Kan. City, Ft. Scott & Memphis	4,353,882	4,588,230	234,348	....
Kan. City, Memphis & Birmingham....	1,091,205	1,019,300	....	71,905
Louisville & Nash..	18,456,375	19,823,261	1,366,886	....
Louis., St. L. & Tex.	467,966	584,991	117,025	....
Memphis & Charl'n.	1,470,357	1,306,925	....	163,432
Mo.,Kan.& Tex. Sys.	8,826,719	8,883,375	56,656	....
Mobile & Ohio......	3,165,570	3,006,996	....	158,574
New Or. & N'east'n.	1,036,651	1,116,942	80,291	....
New Or. & South'n..	154,140	127,521	....	26,619
Norfolk & Western..	8,313,936	8,985,923	671,987	....
Ohio River...	649,199	719,107	69,908	....
Vicks., Shr. & Pacific	551,436	476,611	....	74,825
Sandersv.& Tennille	8,103	6,233	....	1,870
South Carolina......	1,522,370	1,218,911	....	303,459
St. Louis & S'west'n	4,085,215	4,095,556	10,341	....
Texas & Pacific.....	6,490,822	6,142,352	....	348,470
Tex., Sabine Valley & Northwestern..	43,174	45,918	2,744	....
W. Va. Cen. & Pitts.	1,012,918	1,003,312	....	9,606
Wrightsv.& Tennille	78,709	63,489	....	15,220
Total for 33 roads.	$85,925,662	$87,363,836	$3,081,068	$1,642,834

Increase on fourteen roads......................$3,081,068
Decrease on nineteen roads...................... 1,642,834

Net increase....................................$1,438,234

In the table presented below are given the gross earnings and expenditures of leading roads for 1892 and net earnings for 1891 and 1892, years ended June 30 in each case. It will be noted that operating expenses are unusually large in many cases, which is partly explainable by the heavy expenditures for betterments charged to operating account:

EARNINGS AND EXPENSES FOR YEAR ENDED JUNE 30.

	Gross earnings. 1892.	Expenses 1892.	Net earnings. 1892.	Net earnings. 1891.
Alabama & Vicksburg.....	$692,741	$550,929	$41,812	$119,905
Atlantic & North Carolina.	159,375	109,189	50,186	32,495
Cape Fear & Yadkin Val.	559,553	353,962	196,591	239,458
Charlotte, Col. & Augusta.	865,306	630,620	234,686	300,003
Chesapeake & Ohio.......	9,004,599	6,731,731	2,272,867	2,206,693
Ches., Ohio & Southwest.	2,297,825	1,474,666	823,159	739,428
Cin., N. O. & Tex. Pacific.	4,337,498	3,199,810	1,137,688	1,351,641
Columbia & Greenville...	750,709	597,546	153,163	223,984
Fla. Central & Peninsular.	1,645,655	1,158,667	486,988	270,211
Illinois Central.	19,291,76	14,070,020	5,221,740	5,120,508
Kan. City, Ft. S. & Memp.	4,991,278	3,634,675	1,356,603	1,313,924
Kan. City, Memp. & Birm.	1,174,372	958,781	215,591	230,917
Louisville & Nashville...	21,235,721	13,791,122	7,443,599	7,162,284
Louisville, N. A. & Chi...	3,112,108	2,114,948	997,160	818,617
Louisville, St. L. & Texas.	606,787	377,016	229,770	178,922
Missouri, Kansas & Texas	9,750,536	7,380,567	2,369,969	....
Mobile & Ohio...........	3,443,760	2,357,467	1,086,293	1,215,712
Nashville, Chatt. & St. L.	5,353,288	3,324,280	2,029,008	1,754,668
New Orleans & N. E......	1,290,626	1,017,183	273,443	261,541
Norfolk & Western.......	9,494,411	6,388,028	3,106,383	....
Northeastern Ry. of S. C.	659,256	500,411	158,845	274,047
Petersburg Railroad......	532,462	296,607	235,855	182,343
Richmond, F. & Pot......	746,529	455,577	290,952	293,890
Richmond & Petersburg.	368,448	243,150	126,298	70,417
St. Louis Southwestern...	4,636,461	3,824,294	812,167	*........
Vicks., Shreveport & Pac.	632,870	478,987	153,883	157,264
West Va. Central & Pits..	930,001	600,223	329,778	....
Wilmington & Weldon...	1,452,012	824,169	627,843	680,035
Wilm., Col. & Augusta....	846,286	667,574	178,712	314,012
Wrightsville & Tennille..	71,276	44,512	26,763	32,984

*Deficit, $525,999.

NEW BOND AND STOCK ISSUES.

A number of important financial transactions were carried out during the year by Southern roads. New capital stock and bond issues representing and providing for extensive betterments were effected. Finances were adjusted, new securities at low rates of interest replaced outstanding bonds at higher rates and further privileges and franchises were applied for and obtained. These movements display the confidence of the different companies in the improved outlook for business, and evidence the progressive spirit of Southern railroad management in making provisions for the heavy traffic which this year promises. In the following summary are given some of the important items of this character:

The Baltimore & Ohio sold $5,000,000 of new common stock, thereby increasing the entire capital stock to nearly $25,000,000.

Louisville & Nashville sold during its fiscal year $3,074,000 of new unified 4 per cent. bonds to represent betterments, etc.

Chesapeake & Ohio amended its charter, authorizing the issuance of additional bonds and stocks of the company, and to authorize the company to construct or acquire branches or extensions and to issue its bonds thereon, or to hold stock in and guarantee the bonds of corporations owning such branches or extensions. The stockholders voted authority to the president and board of directors to create a new general mortgage of $70,000,000 to secure 4½ per cent. bonds, also to issue additional stock of the company.

San Antonio & Aransas Pass filed resolutions providing for a new mortgage for $21,600,000.

Georgia Midland & Gulf perfected arrangements to fund its 6 per cent. bonds by a new issue of 4 per cents.

International & Great Northern executed a mortgage for $3,000,000.

Illinois Central sold during its fiscal year $7,840,089 of bonds and stocks. It also increased capital stock from $45,000,000 to $50,000,000, and executed a mortgage authorizing the issuance of $25,000,000 of 4 per cent. bonds.

Louisville, St. Louis & Texas executed a mortgage for $5,000,000 to refund its bonded indebtedness.

Missouri, Kansas & Texas secured a special act from Texas legislature terminating all differences between the reorganization committee and the State authorities, and authorizing the company to build 500 additional miles of road within that State. Authority was also given to issue bonds upon the new mileage at the rate of $20,000 per mile and stock at $10,000 per mile.

Norfolk & Western stockholders indorsed recommendation of directors to increase preferred stock from $40,000,000 to $50,000,000 to provide means for the many improvements, further equipment and completion of Ohio extension.

Owensboro, Falls of Rough & Green River Railroad authorized an issue of $6,000,000 of bonds to build to Middleshorough, Ky.

Florida Central & Peninsular authorized an issue of consolidated fifty-year 5 per cent. bonds to cover the entire property at a rate not to exceed $8000 per mile. This will provide funds for the Savannah extension.

Southern Pacific filed its amended articles of incorporation in San Francisco in November. The capital stock is $90,000,000. The certificate gives details of thirty-six roads and branches included in the consolidation, with aggregate length of 3000 miles.

Tennessee Midland authorized cancellation of all outstanding mortgage bonds and a new issue of 5 per cent. firsts at the rate of $11,000 per mile, and 5 per cent. seconds at $9000 per mile.

Norfolk, Wilmington & Charleston authorized an issue of bonds at the rate of $16,000 per mile and not to exceed in amount $10,000,000.

CONSOLIDATIONS, PURCHASES, LEASES.

The prevailing tendency towards railroad consolidation, which has been so strikingly manifested during the past year among some of the Northern systems, has also shown itself in a measure in the South in the merging of a number of the smaller lines in the larger systems, the result of which cannot fail to be beneficial to the transportation and business of the South. In the following paragraphs we briefly summarize some of the leases, consolidations, sales, etc., which have taken place during the past year:

The St. Louis, Iron Mountain & Southern absorbed the Camden & Alexandria.

Florida Central & Peninsular leased the South Bound.

Ohio Valley Railroad leased the Clarksville & Princeton branch of Louisville & Nashville.

Owensboro, Falls of Rough & Green River is to shortly pass into the control of the Huntington system.

Illinois Central absorbed the Louisville, New Orleans & Texas.

White Oaks Railroad purchased by Texas & Pacific.

Norfolk & Western leased the Lynchburg & Durham and the Roanoke & Southern.

The Albany, Florida & Northern was leased by the Savannah, Americus & Montgomery.

Silver Springs, Ocala & Gulf is understood to have been leased by the Plant system.

Tennessee Midland was purchased by Paducah, Tennessee & Alabama.

The Chesapeake & Ohio acquired during its fiscal year the Elizabethtown, Lexington & Big Sandy, Ohio & Big Sandy and Kentucky & South Atlantic roads.

An agreement was reached for the transfer of the control of the San Antonio & Aransas Pass to the Southern Pacific.

RECEIVERSHIPS OF SOUTHERN RAILROADS.

The year 1892 has been a memorable period for railroad receiverships. Top-heavy concerns, like the Richmond Terminal, after weathering financial disturbances of previous years, were collapsed by the stringencies of the past year. Other railroad companies of more legitimate standing were forced to the wall by decreased earnings and inability to meet interest charges. Some new roads with but limited backing found it impossible to tide over the heavy expenditures incident to new lines. Legislation in some States was also a telling factor in increasing the financial burdens of the roads. The list we give below shows twenty-two companies for which receivers were appointed at some time during the year. For these the mileage and securities are given. In addition to these there are the Western Florida, thirty-three and a-half miles of road, Abbeville & Way Cross, thirteen miles, and Morristown & Cumberland Gap, forty miles. The list follows:

RAILROAD RECEIVERSHIPS CREATED IN 1892.

Name.	Mile'ge	Bonds.	Stocks.
Augusta, Gibson & Sandersville	80	$180,000	$123,525
Atlanta & Florida.............	105	840,000	1,115,000
Blue Ridge & Atlantic..........	21	300,000	400,000
Bristol, Elizabeth'n & N. Carol'a.	24	600,000	1,500,000
Central Railroad & Banking Co..	1,880	21,479,000	7,500,000
Chattanooga Southern.....	86	1,440,000	1,440,000
Charleston, Sumter & Northern.	139	2,082,000	1,328,000
Chattanooga Union.............	41	660,000	1,000,000
E. Tenn., Virginia & Georgia...	2,576	39,960,000	57,000,000
Florida Southern...............	307	2,904,400	2,595,400
Gulf & Ship Island.............	20	400,000	400,000
Hartwell Railroad of Georgia...	10	20,000	21,000
Jacksonv'e, Tampa & Key West.	200	7,666,000	3,010,000
Knoxv'e, Cumb. Gap & Louisv'e	82	2,955,000	2,150,000
Louisville Southern............	130	4,190,000	3,500,000
Macon & Northern...............	105	2,200,000	1,000,000
Memphis & Charleston	330	5,524,000	5,312,725
Mobile & Girard................	135	1,080,000	1,269,707
Mobile & Birmingham...........	147	3,000,000	3,000,000
Richmond & Danville...........	3,520	14,190,760	5,000,000
Richmond Terminal..............	....	16,565,000	75,000,000
Savannah, Americus & Montg'y.	305	2,940,000	1,114,300
Total.........................	10,243	$131,416,160	$174,779,657

REORGANIZATIONS.

A record of the railroad companies operating in the South and Southwest and for which some steps towards reorganization were taken during the year is also presented. It includes twenty-eight companies, several of which, at this time, are fully reorganized and efforts towards that end are satisfactorily progressing for many of the others. In this list we give details of mileage and securities for twenty-four. The mileage of the others are: Decatur, Chesapeake & New Orleans, thirty-four miles; Morristown & Cumberland Gap, forty; East Line & Red River, 153, and Nashville, Tellico & Charleston, twenty-five. The list follows:

Name.	Mile'ge	Bonds.	Stocks.
Atlanta & Florida..............	105	$840,000	$1,115,000
Baltimore & Eastern Shore.....	87	1,469,000	500,000
Bristol, Elizabeth'n & N. Carol'a.	24	600,000	1,500,000
Central Railroad & Banking Co.	1880	21,479,000	7,500,000
Charl'n, Cincinnati & Chicago..	213	7,345,000	7,345,000
Chattanooga Southern..........	86	1,440,000	1,440,000
Chesapeake & Nashville........	35	875,000	1,050,000
Choctaw Coal & Railway........	97.5	2,650,000	3,750,000
Empire & Dublin................	32	120,000	320,000
Florida Southern...........	307.5	2,904,400	2,595,400
Georgia Southern & Florida....	285	3,420,000	....
Houston, East & West Texas....	192	2,094,000	1,500,000
Houston & Texas Central.......	453	16,867,000	10,000,000
International & Great Northern.	825	18,233,000	9,755,000
Jacksonville & Atlantic.........	17	50,000	....
Macon & Northern..............	11.5	200,000	....
Marietta & North Georgia......	244	1,784,000	3,384,625
Mobile & Birmingham..	147	3,000,000	3,000,000
Orange Belt of Florida	153	700,000	850,000
Rich., Nich., Irvine & Beattysv'e	61	1,205,000	2,425,000
Richmond Terminal.............	....	16,565,000	75,000,000
San Antonio & Aransas Pass....	688.5	11,948,000	5,000,000
South Carolina Railway.........	335	8,820,092	4,204,160
Texas Central...................	230	3,399,000	205,265
Total	6509	$128,007,492	$139,164,450

It will be observed that movements are already under way to rehabilitate a large proportion of the companies placed in the hands of receivers during 1892.

BANKING INTERESTS OF THE SOUTH.

A Substantial Gain in Capital and an Increase in Business.

In estimating the progress of the national banking system in the South there must be recognized certain influences of late years operating throughout the country whose tendency has been to discourage the organization to any great extent of such institutions. Perhaps the chief and most important of these is the policy of the government of gradually retiring the bonds upon which and upon which alone can national bank circulation be based. The decrease in these securities outstanding les-

sening the available material upon which to institute such banks, served to check the fullest development of the opportunities for growth. Apart from this there existed during the past two years, which are notable for the large falling off in the establishment of new national banks, conditions far-reaching in effect and accountable in a measure for this decrease. The years 1891 and 1892 were characterized by financial stringencies penetrating and affecting to a greater or less degree every field of enterprise. A more conservative feeling prevailed amongst investors, and new enterprises were hampered in efforts to secure capital by the slow and cautious movements of capitalists.

The year 1890 shows the organization of 307 new national banks in the country with an aggregate capital of $36,250,000. Of these the South furnished 105, with $10,985,000 capital. The two years following evidence a decrease of more than 45 per cent. in the number of new banks and over 57 per cent. in aggregate capital.

In 1891 the total for the country was 193 new banks, with $20,700,000 capital, and the number for the South was fifty-five, with $5,310,000 capital. The showing for 1892 is 163 banks, with aggregate capital of $15,285,000. Of these 163 banks thirty-seven were organized in the South, with an aggregate capital of $2,780,000. Texas leads the country in the number of new banks, twenty-two having been established in that State, with $1,445,000 capital. The following table gives the figures for the South for 1891 and 1892 by States:

	1891.		1892.	
	No. of Banks.	Capital.	No. of Banks.	Capital.
Maryland	6	$1,150,000	1	$50,000
District of Columbia	1	200,000	..	....
Virginia	5	400,000	1	200,000
West Virginia	3	255,000	5	350,000
Kentucky	6	415,000	1	100,000
Tennessee	3	450,000	3	160,000
North Carolina	3	150,000	1	125,000
Georgia	2	300,000	1	150,000
Florida	4	200,000	1	100,000
Alabama	1	50,000	1	100,000
Mississippi	1	50,000	..	....
Louisiana	2	100,000	..	....
Texas	17	1,510,000	22	1,445,000
Arkansas	1	50,000	..	....
Total	55	$5,310,000	37	$2,780,000

The above figures are for the twelve months ending October 31 in each year, and covered by the comptroller's report. We have record of thirty-six banks authorized to commence business in the South during the calendar year 1892 with aggregate capital of $2,680,000. The names, locations and capital of these are as follows:

ALABAMA.		
Farmers and Merchants' Nat'l Bank	Huntsville	$100,000
FLORIDA.		
First National Bank	Key West	100,000
Putnam National Bank	Palatka	50,000
GEORGIA.		
Fourth National Bank	Columbus	150,000
KENTUCKY.		
Newport National Bank	Newport	100,000
First National Bank	Glasgow	50,000
MARYLAND.		
Canton National Bank	Canton	50,000
NORTH CAROLINA.		
Atlantic National Bank	Wilmington	125,000
TENNESSEE.		
Citizens' National Bank	Pulaski	60,000
First National Bank	Jonesboro	50,000
TEXAS.		
Amarillo National Bank	Amarillo	50,000
City National Bank	Bowie	50,000
First National Bank	Blooming Grove	50,000
National Bank of Daingerfield	Daingerfield	50,000
Mercantile National Bank	Dallas	150,000
Denton National Bank	Denton	50,000
First National Bank	Detroit	50,000
Coleman National Bank	Coleman	50,000
First National Bank	Crockett	50,000
City National Bank	Gatesville	50,000
First National Bank	Goldthwaite	50,000
Brownwood National Bank	Brownwood	60,000
State National Bank	Jefferson	50,000
First National Bank	Marlin	100,000
First National Bank	Mt. Pleasant	50,000
Pilot Point National Bank	Pilot Point	60,000
Fifth National Bank	San Antonio	125,000
Farmers and Merchants' Nat'l Bank	Rockwall	50,000
Tyler National Bank	Tyler	100,000
First National Bank	Whitewright	50,000
VIRGINIA.		
City National Bank	Norfolk	200,000
WEST VIRGINIA.		
First National Bank	Ceredo	50,000
Kanawha National Bank	Charleston	100,000
Traders' National Bank	Buckhannon	50,000
Elkins National Bank	Elkins	50,000
Citizens' National Bank	Martinsburg	100,000
Total for thirty-six banks		$2,680,000

During the comptroller's year there were seventeen banks placed in the hands of receivers with an aggregate capital of $2,450,000, as compared with twenty-five in 1891 with $3,662,000 capital. Of these in 1892 only three were in the South, with capital aggregating $425,000, against six in 1891 with $875,000, a gratifying decrease of 50 per cent. In 1891 the South furnished about 25 per cent. of the national bank failures of the country and in 1892 about 17 per cent. The three Southern banks placed in the hands of receivers in the past year are: The First National Bank, Wilmington, N. C., capital $250,000; Bell County National Bank, Temple, Texas, capital $50,000, and First National Bank, Rockwall, Texas, capital $125,000. During the year fifty-three banks went into voluntary liquidation with an aggregate capital of $8,607,500. Eleven of these were in the South, with capital amounting to $1,260,000. They were distributed as follows: Texas four, with $210,000 capital; Tennessee two, $350,000; Alabama two, $500,000; Georgia one, $50,000; Florida one, $50,000, and Virginia one, $100,000.

The volume of business transacted by Southern clearing-houses for the fifty-one weeks from January 1 to December 24 of 1892 evidences a net gain over the same period of 1891 of $71,116,672. Baltimore, Louisville, Washington, Houston and Richmond are the leaders in this splendid showing. The comparative figures are as follows:

SOUTHERN BANK CLEARINGS JANUARY 1 TO DECEMBER 24—51 WEEKS.

	1891.	1892.		
Baltimore	$729,651,673	$768,885,799	inc.	$39,234,126
Washington	87,660,259	104,718,661	inc.	17,058,402
New Orleans	508,424,461	506,092,309	dec.	2,332,152
Louisville	355,047,280	388,659,398	inc.	33,612,118
Memphis	126,850,438	131,948,028	inc.	5,097,590
Richmond	118,642,318	126,827,412	inc.	8,185,094
Galveston	158,571,796	137,329,447	dec.	21,242,349
Houston	101,386,478	111,352,165	inc.	9,965,688
Nashville	103,466,405	98,119,776	dec.	5,346,629
Dallas	45,881,616	49,920,150	inc.	4,038,534
Norfolk	53,753,525	49,789,350	dec.	3,964,175
Fort Worth	31,933,815	29,227,537	dec.	2,706,278
Birmingham	30,657,288	27,203,340	dec.	3,453,948
Waco	37,193,759	30,403,823	dec.	6,789,936
Chattanooga	22,967,429	22,728,016	dec.	239,413
Total	$2,512,088,540	$2,583,205,212	inc.	$71,116,672

THE SOUTH'S FOREIGN COMMERCE.

Many New Steamship Lines Promise a Large Increase in Imports and Exports.

The foreign trade of the South during the year 1892 has developed many important features and has been marked by a decidedly progressive movement in the direction of establishing more intimate direct relations between Southern ports and foreign countries. This movement has been most marked at the South Atlantic ports, notably at Savannah, and the credit for what has been done and for what is likely to result from negotiations now in progress belongs to one of Atlanta's most progressive citizens, Col. I. W. Avery. Colonel Avery started last spring to work up interest in the question of direct trade and to induce the establishment of additional lines of steamships plying between Southern ports and foreign points. Starting simply as a private citizen with no object in view beyond benefit to Southern commerce, the movement which he inaugurated has gained powerful headway and has enlisted the interest of many capitalists, business men, railroad companies and bankers, and the outcome of this movement, which was so modestly started, promises to be the establishment of a number of very important steamship lines, which will bring direct to Southern ports the goods that are needed from foreign countries, and at the same time offer a direct and immediate outlet for Southern products.

As a matter of fact, several of these lines are already in operation. The Murrell Line of steamers, plying from Brunswick to Liverpool and Bremen, dispatched its first vessel a few months ago. The steamship Genoa, of the Prince Line, loaded at Savannah last month for Mediterranean and Adriatic ports and commenced a regular service. Direct service has also been established by those interested in this same line between Charleston and Mediterranean ports. A new fruit line has been established between Savannah and South America, and a regular service has been instituted between Fernandina, Fla., and London for carrying Florida fruits. The Louisville & Nashville Railroad has started a line to run from Pensacola, Fla., to Havana, Cuba, the first vessel having sailed last month. A line has been arranged to run from Wilmington, N. C., to Europe. French capitalists are considering the establishment of a line between New Orleans and Mediterranean ports. English capitalists, represented by Mr. Ernest Bigland, of London, are negotiating for a line to run from Port Royal, S. C., to England, and a large and very comprehensive plan, which is now being discussed by English capitalists and those interested in Southern transportation interests, provides for the establishment of a first-class line between either Brunswick or Savannah and English ports, with ample banking capital at this end to facilitate trade. One of the most important moves in the extension of the foreign commerce of the South is the new Chesapeake & Ohio Steamship Co., which will begin regular service between Newport News, Va., and Liverpool as soon as six new steamers, now being constructed for this service, can be built. Substantial progress has been made in the development of coal export trade for New Orleans and Mobile, and this year will probably see a large business established in this line.

Notwithstanding the adverse conditions under which business has been conducted in the South during the past year, the foreign trade of the South shows only a small decrease, which under the circumstances is very significant. The value of cotton exported during eleven months of 1892 was $44,644,569 less than for the same period in 1891. From the beginning of the present crop year, September 1, 1892, there has been a shrinkage in cotton exports from Southern ports of about 400,000 bales as compared with the same months of 1891, representing a loss of not less than $15,000,000, but the increase in exports of other products has been so large that the net loss in Southern exports for eleven months of 1892 has been reduced to $9,183,195.

The grain trade of the Southern ports has been an important factor in counteracting the decline in cotton shipments. This is strikingly shown at New Orleans, where the loss in cotton has been heaviest, in spite of which the exports from that city show a small gain. During the year ended September, 1890, the wheat exports from New Orleans amounted to only 1,739,588 bushels, in 1891 the shipments were 5,150,382, and for the year ended September 1, 1892, the exports of wheat reached 15,261,854 bushels.

The foreign trade of the South for eleven months of 1892 is shown by the following table:

FOREIGN TRADE OF THE SOUTH FOR ELEVEN MONTHS ENDED NOVEMBER 30.

Customs Districts.	1891.		1892.	
	Imports.	Exports.	Imports.	Exports.
Baltimore, Md.	$17,294,073	$70,532,147	$12,809,371	$83,666,697
Beaufort, S. C.	41,061	613,152	80,351	742,428
Brazos, Texas	143,057	587,966	128,209	364,159
Brunswick, Ga.	4,734	5,010,662	11,380	4,633,281
Charleston, S. C.	1,081,020	18,714,948	322,671	10,385,026
Corpus Christi, Tx	2,423,895	3,865,120	2,820,162	5,129,883
Fernandina, Fla.	....	792,997	....	1,393,248
Galveston, Texas.	674,860	29,574,753	841,066	27,942,497
Georgetown, D. C.	250,158	....	165,226	....
Key West, Fla.	723,671	418,835	870,825	1,077,765
Louisville, Ky.	530,485	....	331,414	....
Mobile, Ala.	62,786	2,137,548	255,785	2,357,183
New Orleans, La.	19,980,338	96,403,163	20,704,233	96,871,259
Newport News, Va	116,273	12,402,588	120,638	10,527,533
Norf. & Ports., Va.	38,717	12,552,399	35,885	7,446,296
Paso del Norte, Tx	5,899,865	13,766	5,137,287	3,544
Pearl River, Miss.	4,823	932,273	210	1,056,244
Pensacola, Fla.	117,290	2,056,550	26,796	3,360,714
Richmond, Va.	26,260	6,321,177	55,010	2,868,600
Saluria, Texas	893,573	2,652,676	1,352,259	2,719,217
Savannah, Ga.	409,839	24,700,838	223,012	18,493,826
Tampa, Fla.	362,627	235,376	466,110	410,143
Teche, La.	230,221	731	....	1,581
Wilmington, N. C.	179,313	5,751,511	116,604	5,353,182
Total	$51,489,319	$295,957,510	$46,873,914	$286,864,306

THE COTTON CROPS.

The Season of 1892-93 Shows a Great Decline from the Enormous Production of 1891-92.

The cotton crop grown during the season of 1891-92 was the largest ever produced, amounting to 9,035,379 bales as compared with 8,652,597 bales for the preceding season. The oversupply produced by this enormous crop, together with the surplus left over from the previous season, depressed the average price received for the crop of 1891-92 to 7.5 cents, the lowest figure reached since the season of 1844-45. This overproduction and the abnormally low price resulted in a large reduction of acreage when the crop of the present season was planted, this reduction ranging from 10 to 18 per cent. Unfavorable crop conditions have reduced the yield during this season, and the reduced acreage and smaller yield combined have in many sections caused a falling off of 40 to 50 per cent. from the average crop, according to the reports by the Department of Agriculture. In nearly every cotton-growing section there has been a large reduction in the cotton crop during this season, and the estimates of the crop now coming in range from less than 6,000,000 bales up to about 7,000,000 bales, the best authorities pointing to a crop of between 6,250,000 and 6,500,000 bales. The large table accompanying this article gives the principal statistics of the cotton crops for six years past, and the table given below shows the estimated acreage during 1891-92 and the present season, calculated from the percentages reported by the Department of Agriculture.

ESTIMATED ACREAGE OF COTTON.

	1891-92. Acres.	1892-93. Acres.
Alabama	2,704,326	2,271,634
Arkansas	1,616,262	1,325,335
Florida	231,849	187,798
Georgia	3,241,815	2,723,124
Louisiana	1,159,647	927,238
Mississippi	2,793,141	2,374,170
North Carolina	1,099,944	836,008
South Carolina	1,905,389	1,650,927
Tennessee	707,918	587,572
Texas	4,335,862	3,685,483
Sundry	92,734	67,696
Total	19,948,287	16,636,985

The season of 1891-92 was a memorable one for the

cotton planter. Not only did the crop exceed any ever before grown, but the price fell lower than at any period since 1844-45. In the season of 1889-90 the crop was 7,307,281 bales, the greatest ever grown to that date. In the following year, 1890-91, this was exceeded with a crop of 8,652,597 bales, and last season was greater yet—9,035,-379 bales. Fortunately for the planter it was not generally supposed, up to November, 1891, that the crop could exceed 8,000,000 bales, and prices were fairly maintained, but it then became apparent to buyers that the quantity of the staple would be greater than their needs, and prices declined in consequence. In December, 1891, *Bradstreet's* issued an estimate of 8,490,000 bales, which was severely criticised as being excessive and favoring the bear side of the market. After the early part of December the price steadily declined until March, when it reached its lowest point, 6.28 cents. From then until the opening of the present season, in September, it gained very little and was barely steady.

AMERICAN COTTON CROP FOR SIX YEARS.
(Year Ending Close of August.)

	1891-92.	1890-91.	1889-90.	1888-89.	1887-88.	1886-87.
Port receipts	7,137,900	6,976,386	5,857,174	5,550,345	5,612,448	5,307,934
Overland to mills	1,253,560	1,110,935	937,471	938,700	1,001,261	820,869
Southern consumption	686,080	604,664	546,894	479,781	456,090	401,452
	9,077,540	8,691,976	7,341,539	6,968,826	7,069,799	6,529,355
Less taken by Southern mills from ports	42,161	39,379	30,217	30,536	22,966	24,268
Total crops	9,035,379	8,652,597	7,311,322	6,938,290	7,045,833	6,505,087
EXPORTS.						
Great Britain	3,315,262	3,329,132	2,850,102	2,817,706	2,814,126	2,696,594
France	691,134	559,099	472,737	414,719	406,179	479,791
Continent and Channel (including Mexico)	1,850,541	1,890,291	1,577,601	1,506,242	1,407,197	1,260,893
Canada overland	76,560	68,369	55,491	52,011	54,016	35,453
Total exports	5,933,437	5,847,191	4,955,931	4,790,678	4,681,518	4,472,731
Stocks at close of year	419,221	227,624	61,396	56,416	180,662	86,389
Northern mills takings	2,190,766	2,027,362	1,799,258	1,785,979	1,864,995	1,710,080

The extent of this drop may be seen in the following table of market quotations of spot cotton in New York:

Month.	Highest.	Lowest.
September, 1891	8.77	8.60
October, "	8.60	7.92
November, "	8.20	7.59
December, "	7.80	7.50
January, 1892	7.50	6.99
February, "	7.11	6.61
March, "	6.67	6.28
April, "	7.13	6.41
May, "	7.51	7.04
June, "	7.80	7.16
July, "	7.43	6.95
August, "	7.46	6.93

Average price for the year, 7.50 cents.

This difference in price is even more striking in the futures. Cotton sold in September, 1891, for delivery in January, 1892, was quoted at 9.30 to 8.59, and the price during the latter month was 7.50 to 6.99. During the same month, September, March delivery was quoted at 9.65 to 8.85 and July delivery at 10 to 9.24. Indeed, on the basis of September quotations, the average price for the year would have been about 9.46 cents as against 7.50 actually received. In 1889-90 the crop of 7,307,281 bales brought an average of 11.53 cents; in 1890-91 a crop of 8,652,597 bales averaged 9.03 cents.

The acreage planted in cotton, as estimated from the reports of the Department of Agriculture, was 20,100,022 acres in 1889-90, 20,483,326 in 1890-91, 19,918,287 in 1891-92 and 16,636,988 for the present season of 1892-93. On this basis the yield was .36, .41 and .45 bales per acre, respectively, for the first three seasons. For the present season the crop estimates, which in September varied from 7,000,000 to 8,000,000 bales, have been reduced, as continued reports of a low yield and evidence of it in the reduced receipts at ports have come in. Atwood Violett & Co., of New Orleans, now estimate the crop at 6,250,000 bales; Mr. Neill, of the same city, estimates it at 6,500,000, including 250,000 bales left over from last season, and *Bradstreet's*, through nearly 2000 correspondents in the cotton States, estimates it at 6,460,000 bales.

At the beginning of the present season buyers were skeptical both as to reports of short crops, the effect of the weather upon the staple and the reduced acreage reported by the Department of Agriculture; consequently prices changed but little from those of August until toward the end of the month, when 7⅝ cents was reached. During the first week in October, owing to confirmatory reports from many sources as to the probable reduction in the crop and the smaller amount brought into sight during September—531,619 bales, as against 823,317 in 1891-92 and 856,438 of 1890-91—prices advanced to 7 11-16 at the beginning of the week and to 8 1-16 at its end. At this time buyers displayed some anxiety as to the outlook, which was emphasized by reports of frost in parts of the cotton belt. This led to buying, and prices advanced to 8 3-16 in the first of the week, dropping to 8 before the end, owing to the Department of Agriculture report showing better average condition than was expected. The following week opened with prices at 8 cents, but Latham, Alexander & Co.'s estimate of 7,750,000 bales corrected to a maximum of 7,250,000, together with discouraging crop reports from various authoritative sources, caused active trading, and prices advanced to 8¼. On the 22d there was a short advance to 8⅜, but during the following week the market dropped 1-16 and held at 8 5-16, with a quiet tone. This was owing largely to the fact that the foreign market was doing little buying. On November 1 the statement showing 1,458,139 bales received during the month as against 2,030,643 the preceding year and 1,743,287 the year before, making total receipts to November 1 1,989,758 bales against 2,862,960 in 1891-92, had little effect on prices, though toward the end of the week they advanced 1-16 with a stronger and steadier tone, and on the 5th gained further, to 8 7-16, owing to further reports of low yield and some anxiety displayed by domestic spinners to secure themselves in event of as short a crop as anticipated. During the week ending November 12 this movement became stronger and prices advanced daily, reaching 9 cents on the 11th with unusually heavy buying. This continued during the following week, notwithstanding the fact that foreign markets purchased very lightly, and by the 19th the price had advanced to 9 7-16 cents. On the 21st, Monday, this price ruled with an irregular and feverish market caused by depressing crop reports, and on Tuesday advanced to 9⅝, with a further advance Wednesday to 9 11-16. Thursday was a holiday, and on Friday buyers went wild, all kinds of gloomy crop reports were credited and the price went up to 10 cents, with the greatest volume of trading in futures ever recorded in one day on the New York Cotton Exchange, viz., 556,900 bales. On Saturday and Monday the same price ruled, with a steadier market, inclining to be dull on the latter day. During the remainder of the week prices declined a little, reaching 9⅝ on Saturday, December 3. This was owing to a large number of selling orders early in the week and no corresponding increase in the demand. On December 1 the cotton brought in sight for the past month was 1,478,269 bales, against 1,919,272 in 1891-92 and 1,618,617 in 1890-91, the total in sight to that date being 3,468,027 bales, against 4,782,232 the preceding year and 4,218,342 the year before. During the week from December 5 to 10 the market was irregular, partly through fear of adverse legislation from the anti-option bill. On Saturday it closed at 9¾ with a barely easy tone. During the next week the same feeling prevailed, but toward the latter part strong advices from the South showing conclusively that the crop would be very short, combined with more activity among foreign buyers, advanced prices again, reaching 10 cents on the 17th (Saturday). On Monday following 9⅞ cents ruled, the drop being due to large sales of local holders. This price prevailed throughout the week, with a fairly steady market and increased buyings from spinners, influenced doubtless by *Bradstreet's* and other reports definitely confirming the shortness of the crop.

The unanimity of opinion among the various authorities indicates clearly that the crop of 1892-93 will not exceed 7,000,000 bales, and will probably fall short of 6,500,000. One noticeable feature throughout the present season thus far is the unusually slow movement of foreign buyers. While the Liverpool market has fluctuated violently at times, buyers have not done anything near so much trading as usual. The Manchester cotton lockout no doubt is partly the cause of this, but it is only a matter of short time before this will be over and purchases must be made. When Liverpool comes into our market to stock its own there is a probability of a considerable advance in price, and it is the opinion of many persons well informed on the subject that prices ranging near those of 1888-89 and 1889-90 will be secured and maintained for the present crop.

In May, 1892, the report of the Department of Agriculture stated an average decrease in acreage of 18.6 per cent. In South Carolina the reduction was largely due to the low price received for cotton in the preceding season, preventing planters from obtaining the usual advances of money. In Georgia the acreage was decreased for the same reason, and in that State, Tennessee and Louisiana the report showed that planting had been seriously delayed by excessive rains and a late season. In June the reports as to acreage made a better showing, the reduction being 16.5 per cent., but the average condition was poor. Texas and Alabama reported cut-worms as damaging the crop, and from Arkansas, Tennessee and Mississippi came word of great damage from the late season, rain and flood. In August the department report showed a further reduction in condition of the crop for July and the month named. South Carolina reported wet weather as injuring the crop and preventing good fruiting; Georgia, the condition lower than for several years; Florida, wet weather making the cotton run to weed; Alabama, cotton supply going to weed and not fruiting well; Mississippi, damaged by excessive rains; Louisiana, behind fully three weeks, far below the average, and heavy rains prevented it from fruiting; Arkansas, condition far below the average and running to weed; estimate about half a crop; Texas, cotton needs rain badly, but if it comes a generous crop is assured. The September report was even more discouraging, the average condition being lower than at any time since 1883, when the crop was 5,713,000 bales. In Texas and Arkansas, particularly the former, the drouth had caused great damage, though the crop was expected to be fair, while east of the Mississippi river the conditions were the reverse, heavy rains having caused the crop to run to stalk, causing rotting and premature ripening of the bolls. The boll-worm appeared in Florida, Alabama and to a less extent in Mississippi and Louisiana. For October the report was still worse, the average condition having fallen off 3½ points from the preceding month. Texas still held up well, and there was an improvement in Georgia, but from other States excessive moisture and other unfavorable conditions had caused unusual damage. The November report emphasized the probability of an unusually light crop. Along the Atlantic coast the effect of a cold wet spring, followed by long-continued dry weather, was to produce a large weed, deficient in fruit. In Alabama the yield was unusually light, in some places hardly above twenty-five pounds lint cotton to the acre. In the Mississippi valley there was a good growth of stalk, but small development of bolls.

The general causes which have led to the smallness of the crop this season may be summed up as follows: Decreased acreage, late and wet spring, followed by both drouth and damaging rains, and insect ravages, largely occasioned by the weather conditions. The department averages in October were 73.3 per cent., which would indicate a crop of 6,622,000 bales, but the November returns, while not giving any percentage, clearly indicates that the conditions were even more unfavorable, and points to one of the smallest cotton crops known in this country for years.

COTTON MANUFACTURING IN THE SOUTH.

Growth of the Industry During 1892. New Mills Completed and Now Building.

The past year has been one of unusual activity and prosperity for the cotton manufacturing industry of the South. The extreme low price of cotton has been of great advantage to spinners, and the mills of the South have profited greatly by the cheap raw material which they have had during the past year. Mills have been running actively throughout the year and have earned good profits as a rule. In fact, the past year has been probably the most prosperous period through which this industry has ever passed. A great many new mills have been built and put in operation in the South during the past year, and a large number of others are under construction and will be completed and put in operation during the present year. The following table shows the increasing consumption of cotton by the Southern mills, the figures being taken from the annual reports of Henry G. Hester, secretary of the New Orleans Cotton Exchange:

COTTON CONSUMED BY SOUTHERN MILLS.
(Years ended August 31.)

States.	1890. Bales.	1891. Bales.	1892. Bales.
Alabama	35,772	39,145	42,265
Arkansas	453	610	1,622
Georgia	146,385	153,818	168,306
Kentucky	13,509	14,536	15,905
Louisiana	14,066	13,660	15,322
Mississippi	16,069	15,162	15,514
North Carolina	119,595	140,508	165,011
South Carolina	144,055	164,957	186,099
Tennessee	34,508	30,508	33,808
Texas	3,614	6,522	11,907
Virginia	17,224	23,707	26,538
Total	515,250	603,133	682,297

The present extent of the cotton manufacturing industry

of the South is shown by the table given below, the data for which we have obtained direct from the manufacturers and have revised up to date. In connection with our own figures we also give the number of looms and spindles as reported by the New Orleans Cotton Exchange on September 1, 1891, the comparison between the two showing the increase in the last sixteen months:

LOOMS AND SPINDLES IN THE SOUTH.

States.	September 1, 1891.		January 1, 1893.	
	Looms.	Spindles.	Looms.	Spindles.
Alabama	2,045	113,258	3,903	213,358
Arkansas	196	6,000	206	16,640
Georgia	10,107	456,959	11,637	524,244
Kentucky	677	48,750	748	54,088
Louisiana	1,428	54,500	1,444	55,132
Mississippi	1,327	52,768	1,898	79,772
North Carolina	8,310	429,445	11,159	587,708
South Carolina	10,977	434,537	13,231	525,586
Tennessee	2,032	96,480	2,547	128,852
Texas	856	29,476	2,346	77,184
Virginia	2,763	94,537	3,418	113,344
Total	40,718	1,816,710	52,537	2,375,908

Comparing these figures we find that in sixteen months the number of spindles in the South has been increased by 559,188, and the number of looms by 11,819. The new mills that have been completed and have commenced operations during the past year in the South are as follows:

Cherryville Manufacturing Co., Cherryville, N. C., 3600 spindles.

Stanley Creek Cotton Mills, Stanley Creek, N. C., 2080 spindles.

Caraleigh Mills, Raleigh, N. C., 4600 spindles and 176 looms.

Dallas Cotton Mills, Dallas, N. C., 2080 spindles.

Lexington Manufacturing Co., Lexington, S. C., 3000 spindles and 100 looms.

Union Cotton Mills, Maiden, N. C., 6240 spindles.

Luna Mills, Fort Mill, S. C., 5200 spindles.

Hamburger Cotton Mills, Columbus, Ga., 3000 spindles.

Capitol Manufacturing Co., Columbia, S. C., 12 cards.

Morris Southern Cotton Yarn Manufacturing Co., Panola, Ga., 5000 spindles.

McColl Manufacturing Co., McColl, S. C., 3000 spindles.

Lauraglenn Mills, Shelby, N. C., 34 spindles.

Union Cotton Mills, LaFayette, Ga., 3500 spindles and 100 looms.

Columbia Cotton Mills, Columbia, Ala., 2000 spindles.

Coosa Manufacturing Co., Piedmont, Ala., 4600 spindles.

Nims Manufacturing Co., Mount Holly, N. C., 2712 spindles.

F. H. Cash, Martinsville, N. C., 1500 spindles.

Powhatan Manufacturing Co., Lambert's Point, Va., 2160 spindles.

Florence Mills, Forest City, N. C., 4000 spindles.

Nottingham Co., Galveston, Texas.

Dallas Manufacturing Co., Huntsville, Ala., 25,000 spindles and 750 looms.

The following list shows the concerns that have been organized during the past year, and whose mills are now under construction, but not yet complete:

Pacolet Manufacturing Co., second mill at Pacolet, S. C., to have 26,224 spindles and 840 looms.

West Huntsville Cotton Mill Co., Huntsville, Ala., to have 5200 spindles.

Thomas M. Holt Manufacturing Co., Haw River, N. C., to have ninety-six looms.

Pineville Cotton Mills Co., Pineville, N. C., to have 3000 spindles.

Great Falls Cotton Mills Co., Rock Island, Tenn., to have 5000 spindles.

Atherton Mills, Charlotte, N. C., to have 7500 spindles.

Gaffney Manufacturing Co., Gaffney, S. C., to have 10,000 spindles.

Pilot Cotton Mills, Raleigh, N. C., to have 2500 spindles.

Swift Cotton Mills, Elberton, Ga., to have 4000 spindles and 125 looms.

Erwin Cotton Mills, Durham, N. C., to have 5000 spindles and 200 looms.

Marble Falls Cotton and Woolen Mills, Marble Falls, Texas, to have 10,000 spindles and 400 looms.

Cedartown Cotton Mill, Cedartown, Ga., to have 3000 spindles and sixty-five looms.

Pearl Cotton Mills, Durham, N. C.

Enterprise Mills, King's Mountain, N. C., to have 2500 spindles.

THE Tennessee Woolen Mills, of McMinnville, Tenn., manufacturers of jeans, linseys, blankets, yarns and penitentiary stripes, contemplate adding a new engine and equipping with electric lights. B. J. Tarver is president of this concern; W. T. Grissim, vice-president; Geo. E. Cartwright, general manager, and B. P. Cantrell, secretary and treasurer. The company has a paid capital of $40,000.

SOUTH CAROLINA AND FLORIDA PHOSPHATES.

Phosphate Industry in South Carolina.

The South Carolina phosphate industry shows a considerable decline in production during the past year, which has been due to a variety of causes. The principal cause was the reduction in cotton acreage and the largely decreased use of fertilizers on the acreage that was put into cotton for the present crop. It is estimated that the consumption of fertilizers in the United States in 1892 was 1,070,000 tons as compared with 1,340,000 tons in 1891, a decrease of 270,000 tons. This decrease was confined almost wholly to the Southern States. The litigation between the State of South Carolina and the Coosaw Mining Co., which caused a suspension of operations in the Coosaw river for more than a year, also largely interfered with the industry and cut down the aggregate production very materially. The settlement of this litigation and the re-opening of the Coosaw territory restores that portion of the industry to the condition of activity, the result of which will be manifest in the production during this year. The competition of Florida phosphates, which are mined at a lower cost and which during the past year have been thrown upon the market regardless of cost, has also been a disturbing factor in the South Carolina industry.

In his annual report as chairman of the board of phosphate commissioners, Governor Tillman speaks as follows of the effect of the Florida phosphate miners upon the South Carolina industry:

"The present condition of the phosphate trade is very unsettled and the market glutted. There have been previous periods of depression, but from other causes than those which have produced the present low prices. Within the last few years very extensive deposits of phosphate rock, both on land and in rivers, have been discovered in Florida, and a large amount of capital has been invested in developing those mines. The rock is of a higher grade than ours, and it is said can be mined much more cheaply, but it has cut a small figure in the markets of the world until within the last twelve months. The Florida miners labor under the disadvantage of having poor shipping facilities and they are handicapped also by higher freights, but their production of rock has been very large, and this has been thrown upon the market for almost any price it would bring; and while we have every reason to believe that the Florida miners are selling below the cost of production, nevertheless their rock is displacing ours and forcing the price down until the margin of profit has grown very small, and with some of the companies may have disappeared altogether. While our miners are admirably equipped for raising the rock and handling it, and have the advantage of geographical location as being nearer the markets of the world, it is almost certain that this Florida competition will prove very formidable, and may necessitate concessions to our miners on the part of the State."

The following table, which has been carefully compiled from official records, gives the shipments of phosphates from South Carolina for each month of 1892, with totals for 1891 and 1890:

SHIPMENTS OF SOUTH CAROLINA PHOSPHATES.

(Tons of 2240 pounds.)

Months of 1892.	River.	Land.	Total.
January	9,840	19,311	29,151
February	8,556	13,961	22,517
March	14,389	15,434	29,823
April	4,908	11,864	16,772
May	17,848	14,803	32,651
June	20,157	16,124	36,281
July	32,206	17,785	49,991
August	23,836	24,685	48,521
September	13,179	13,543	26,722
October	12,467	20,463	32,930
November	3,363	9,309	12,672
December	....	8,668	8,668
Total	160,749	185,950	346,699
" 1891	123,033	246,839	369,872
" 1890	196,906	258,818	455,724
Total for three years	480,688	691,607	1,172,295

The shipments of phosphate covering the period above mentioned were divided as follows: Of crude land rock the coastwise shipments were 447,747 tons; foreign, 56,345 tons, and by rail, 187,515 tons—total, 691,607 tons. Shipments of river rock were 107,218 tons coastwise, 366,571 tons foreign and 6899 tons by rail—total, 480,688 tons. The grand total of river and land rock shipped, exclusive of river and rail rock for December, was 1,172,295 tons. Shipments of ground rock for the three years were 8490 tons.

In the following table are given the names of the miners operating in the Coosaw river and the amount of rock shipped by each during the year ended October 31, as reported by the Comptroller-General of the State of South Carolina.

PRODUCTION OF PHOSPHATE BY COOSAW RIVER COMPANIES, YEAR ENDING OCTOBER 31, 1892.

Names.	Tons.
Coosaw Mining Co.	21,522
Sea Island Chemical Co.	20,781
Oak Point Mining Co.	37,760
Farmers' Mining Co.	21,262
Carolina Mining Co.	40,624
Beaufort Phosphate Co.	22,403
Ashley Phosphate Co.	878
James Reid	1,896
James O'Hear	120
E. M. Seabrook	186
John Hanson	25
F. W. Wagener & Co.	470
Total	167,927

The amount of rock on hand November 1, 1892, was 78,190 tons.

The great decline in the price of phosphate rock, the increasing competition of more cheaply mined Florida phosphates and the lower cost of mining land rock in South Carolina, upon which no royalty is paid, furnish the South Carolina river miners with strong arguments for the reduction or abolition of the present royalty of $1.00 per ton on rock mined in navigable streams. Mr. A. W. Jones, inspector for the South Carolina phosphate commission, presents the following view of the question in his last annual report:

"One other fact to which I deem it my duty to call your attention is that, from recent improvements made in the machinery for mining and likewise for handling the rock on the part of the land companies of this State, they are able to mine rock and place the same on shipboard as cheaply as any of the river companies, and as these land companies have no royalty to pay, they will of course have a decided advantage over the river companies.

"In view of the facts above set forth, I think it would be wise on the part of the State to adopt as liberal a policy as the exigencies will admit of toward this industry, in the continuance of which she is so largely interested.

"When we consider the fact that our river miners are required to pay $1.05 per ton on the dried rock as a royalty, and in addition to this are required to pay State and county taxes on all rock on hand at the time when the tax assessor makes his annual rounds, thus actually amounting to about $1.10 per ton upon this, and also the additional fact that the average royalty required of the Florida miner is only fifty to seventy-five cents per ton, it will readily be seen at what a disadvantage those engaged in river mining in this State are placed in their efforts to hold the trade which they have built up. In case of a struggle for existence the vital question will be who can sell the cheapest, 'not a survival of the fittest,' but 'a survival of the strongest.'"

COURSE OF THE MARKET.

The phosphate market of South Carolina had its periods of depression in 1892, but on the whole the general course of trade was steady, the market fluctuating in narrow limits. A most potent factor in producing the decline in values has been the depression in the cotton market, which has lessened to a great degree the use of fertilizers. Other causes have been present to produce their various effects, but in the main the situation at the close of 1892 was better and the outlook more promising for the future. Miners are now better equipped for developing this industry, and in the operations of hard rock many small operators are retiring from the field. At St. Helena's sound, on which is located the principal mining companies, there has been considerable activity during the past year, and river rock sold as low as $3.75 per ton for 55 per cent. product and as high as $4.00 per ton; Ashley river $4.65 to $5.00, and the year closed with the market steady at $4.50 to $5.00. In high grade land rock, 58 to 60 per cent. product, sales were recorded at $4.50 to $5.00, and at the close of the year quotations were steady at $4.75 for Ashley river and $4.65 to $5.00 at Charleston; low grade 53 per cent. product $3.75 to $4.25 at Charleston.

The Florida Phosphate Industry in 1892.

By C. Gustavus Memminger.

The statistics attached to this report relative to the movements of phosphate from Florida will fully show the present status of the Florida phosphate industry. The increase from a total shipment of 7600 long tons for the year 1889 to a total shipment for the year 1892 of 283,221 tons indicates a truly remarkable development of the industry. During the past five years the shipments have been as follows:

SHIPMENTS OF FLORIDA PHOSPHATES, 1888-1892.

	Tons of 2240 lbs.
1888	3,000
1889	7,600
1890	56,600
1891	180,400
1892	283,221

These figures show a steady growth in output under the very adverse circumstance of the prevailing low prices for phosphates.

A careful review of the situation points to a production

of about 325,000 tons for the year 1893. The bulk of this increase will be in land-pebble phosphate. The amount of land-pebble phosphate shipped in 1892 was 13,491 tons; there is now on hand at various mines about 8000 tons, making the total amount mined for the year 21,491 tons. During 1893 we may safely count on the land-pebble shipments amounting to 40,000 tons. River-pebble mining has practically reached its maximum limit. The hard-rock phosphate mining has also reached its maximum unless there is a marked rise in price, consequently the estimate of 335,000 tons, total for 1893, may be taken as conservative and safe. The foreign market practically consumes the entire output of hard-rock phosphate. The consumption of pebble phosphate is equally divided between the foreign and domestic markets. The following table gives, in tons, relative production of hard-rock and pebble phosphate for the years 1891 and 1892:

PRODUCTION OF HARD ROCK AND PEBBLE PHOSPHATE.
(Tons of 2240 pounds.)

	1891.	1892.	Increase.
Hard rock	86,000	177,613	91,613
Pebble	94,120	105,608	11,488

From the above it appears that the increase in hard-rock production has been much greater than in the pebble. This very marked increase in hard-rock output, especially considering prevailing low prices, can only be accounted for by the fact that while prices were higher in the latter half of 1891 and early part of 1892, the mines were worked to their full capacities and new mines were opening up. The bulk of this phosphate was necessarily shipped in 1892. A new state of affairs now exists, prices having declined, a system of reduction in working force has ensued, and a consequent decrease in output, in addition to which several hard-rock companies have closed down.

The value of the product for the year is estimated as follows:

Hard rock, 177,613 tons at $8	$1,420,904
Pebble, 105,608 tons at $3.50	369,628
Total	$1,790,532

Reviewing the history of the year's transactions, the following points are demonstrated:

1st. That the foreign markets consume practically all the hard-rock phosphate produced.

2d. That the river and land-pebble phosphate is equally acceptable for the domestic and foreign market.

3d. That land-pebble phosphate can be mined and washed economically on a large scale by machinery.

4th. In 1893 Florida will produce 175,000 tons of pebble phosphate that will be placed in active competition with South Carolina phosphates at home and abroad, but with this advantage in favor of Florida, that the higher grades of pebble phosphate produce a superphosphate running from 3 to 5 per cent. higher in soluble phosphoric acid than can be made from Carolina rock.

The following tabular statements show the shipments for the year in detail:

SHIPMENTS OF HARD-ROCK* PHOSPHATE IN 1892.
(Tons of 2240 pounds.)

From.	Domestic	Foreign.	Total.
Fernandina	5,520	116,742	122,262
Tampa	1,000	31,290	32,290
Brunswick, Ga	....	18,061	18,061
By rail to interior	4,000	....	4,000
Consumed in Florida	1,000	....	1,000
Total	11,520	166,093	177,613

*Under the general head "hard-rock phosphate" is included plate rock and boulder rock.

SHIPMENTS OF PEBBLE PHOSPHATE IN 1892.
(Tons of 2240 pounds.)

From.	Domestic	Foreign.	Total.
Tampa	19,227	2,808	22,035
Punta Gorda	19,959	41,314	61,273
By rail to interior	19,300	....	19,300
Consumed in Florida	3,000	....	3,000
Total	61,486	44,122	105,608

SHIPMENTS OF PEBBLE PHOSPHATE FROM PUNTA GORDA, FLA., FOR THE YEAR 1892. (Tons of 2240 pounds.)

Month.	Domestic.	Foreign.	Total.
January	1,980	....	1,980
February	2,310	2,150	4,460
March	1,875	....	1,875
April	975	....	975
May	1,460	5,777	7,237
June	1,700	....	1,700
July	1,902	3,750	5,652
August	1,400	4,551	5,951
September	....	8,756	8,756
October	700	6,980	7,680
November	2,442	6,150	8,592
December	3,215	3,200	6,415
	19,959	41,314	61,273

SHIPMENTS OF PEBBLE PHOSPHATE FROM TAMPA, FLA., FOR THE YEAR 1892. (Tons of 2240 pounds.)

Month.	Domestic.	Foreign.	Total.
January	2,038	....	2,038
February	850	....	850
March	800	....	800
April	....	....	....
May	2,000	....	2,000
June	2,016	....	2,016
July	....	....	....
August	....	....	....
September	2,185	....	2,185
October	3,256	400	3,656
November	3,702	2,408	6,110
December	2,380	....	2,380
	19,227	2,808	22,035

SHIPMENTS OF HARD-ROCK PHOSPHATE FROM FERNANDINA, FLA., FOR THE YEAR 1892. (Tons of 2240 pounds.)

Month.	Domestic.	Foreign.	Total.
January	....	5,367	5,367
February	....	5,880	5,880
March	830	13,760	14,590
April	820	9,471	10,291
May	789	15,237	16,026
June	....	7,474	7,474
July	828	7,184	8,012
August	815	17,154	17,969
September	750	10,929	11,679
October	588	7,965	8,553
November	....	11,457	11,457
December	....	4,964	4,964
	5,520	116,742	122,262

SHIPMENTS OF HARD-ROCK PHOSPHATE FROM TAMPA, FLA., FOR THE YEAR 1892 (Tons of 2240 pounds.)

Month.	Domestic.	Foreign.	Total.
January	....	3,125	3,125
February	....	....	....
March	....	1,620	1,620
April	....	1,860	1,860
May	....	4,360	4,360
June	....	....	....
July	....	3,769	3,769
August	....	2,004	2,004
September	....	....	....
October	....	3,700	3,700
November	1,000	5,852	6,852
December	....	5,000	5,000
	1,000	31,290	32,290

COURSE OF THE MARKET.

The Florida phosphate market during the past year has shown considerable activity, and the industry of the State has been undergoing a more extensive degree of development than in South Carolina. Low prices have prevailed from similar causes to those in that State, and in the great competition present there has been but a slight improvement in values. During the past year the fluctuations have been narrow, and the market rather easy in tone, while not quotably lower. Values at the close of 1892 were firmer at $4.00 to $4.75 for Charlotte Harbor and Tampa 60 to 70 per cent. product, and $3.50 to $3.75 for 50 to 55 per cent. product. Florida boulder 75 to 80 per cent. was steady at $8.50 to $8.75 f. o. b. Fernandina.

The Naval Stores Trade.

SAVANNAH, GA., December 31.

An examination into the statistics of supply and demand of naval stores will show that both production and consumption have increased steadily and considerably during the past few years. But the increase in consumption has not been as great as in production. Especially is this true of the two seasons last past. The consequence is that at present naval stores men find themselves in about the same position that the cotton men occupied at the close of the cotton season of 1890-91. Two seasons of overproduction had glutted the markets and forced prices below the cost of cultivation and marketing. Then followed a "short" season (the present), in which the estimated total yield of cotton, plus the stock carried over, was below the estimated demand for the world's consumption, and a sharp and decided advance in prices resulted. "The world got scared," as an operator expressed it, "and went to buying against the prospects of a shortage." The naval stores people hope to be, by or before the end of the next year, just where the cotton people are to-day. They hope to "scare the world" and make it pay better prices for spirits of turpentine and rosin. In order to do this the folly of overproduction will not be repeated next year; the output as compared with that of the year now about ending will be materially reduced. This will be brought about through the medium of the Turpentine Operators' Association, an organization central in this city, with ramifications throughout the territory tributary to this port and Brunswick, Ga. And, inasmuch as Savannah is the largest naval stores market in the world, having handled last year something like 280,000 packages of spirits out of a total of 480,000, the feasibility of regulating the production from this point is apparent. The operators' organization is most thorough, and any plan of action decided upon by it will be carried out to the letter.

But the turpentine people are not depending entirely upon reducing the production to force prices up. They have on foot a scheme, which will be consummated by May 1, 1893, to build immense storage tanks for spirits turpentine in this city. The tanks will be of 5000 casks' capacity each, and enough of them will be erected to store the whole season's output of the Savannah district, if necessary. Negotiable receipts will be given for spirits so stored, thus removing the necessity of selling at an unsatisfactory price in order to realize. At present London dominates the turpentine market with a reserved stock stored in cellars. It is proposed that in future Savannah shall rule the market by storing the stock heretofore held in London in immense tanks on the banks of the Savannah river. An agent of the Savannah Tank & Supply Co. is now in England gathering information as to the best mode of erecting tanks and other apparatus necessary for the storage of turpentine.

Three States—Georgia, Florida and Alabama—contribute naval stores to the Savannah market, the largest portion of it, of course, coming from this State. The producing territory is gradually being enlarged each year, the growth being in a southerly and southwesterly direction from this point. But an enlargement of territory does not imply an increased output, from the fact that the most advantageously located farms have been or are being worked out, and as the territory is extended the operators must necessarily locate their works further from lines of transportation. This movement away from railroads and rivers, by the way, has been a material factor in making the business unprofitable during the past two seasons.

The present season (for the turpentine year begins April 1) has so far been one of disappointment to operators. Overproduction and high wages to laborers were the causes. On the wage basis for turpentine labor that has obtained during the year—$19 and "rations" or $23 all cash per month—it would be necessary to sell spirits at thirty-three cents per gallon, pale rosins at an average of $3 per barrel, and strained rosins at an average of $1.25, to make the business even moderately profitable. As the market has ruled below these figures, it will be seen that there has been no money-making in turpentine. The operators have been able to make "buckle and tongue meet," but that is about all. Labor meanwhile did not feel the effect of the low market. The laborers were protected by contracts made last March, when the outlook promised better things than came to pass. When the time comes to make new contracts, however, they will feel it, as the prevailing rate next year will be $16 to $17 with rations, or $20 to $21 all cash per month. Operators say they cannot pay more until there is a decided improvement in the situation.

The prospects are that next year's output of naval stores in the Savannah and Brunswick territory will be at least 10 per cent. below the output this year. The new boxes cut for the next season will amount to but about 50 to 60 per cent. of the new boxes cut for this season. The finer grades of rosin, it will be remembered, are the products of the new boxes. At the same time, while the decrease in new boxes will be about 40 per cent., the decrease in fine rosins will be only about 15 per cent. This seeming paradox is accounted for in the fact that in Georgia, and nowhere else, there grows a species of pine locally called "loblolly," from the gum of which pale rosins can be made the second year. It should be borne in mind when it is stated that 50 per cent. of the number of boxes cut for this season will be cut for the next, that the statement does not mean the number of producing trees will be increased to that extent, for a number of old trees as great as or greater than the number of new ones will be abandoned as unprofitable. The number of producing trees will, as a matter of fact, be reduced, which is in line with the policy of the operators' association.

As stated above, the turpentine season begins April 1, consequently it is not possible to give statistics of the current year's operations. The tables appended, however, give a statement of the naval stores movement from January 1 to December 31, 1892, which covers a year's time and gives ah accurate idea of the regular season's work:

RECEIPTS OF NAVAL STORES AT SAVANNAH.

Months.	Casks of Spirits.		Barrels of Rosin.	
	1892.	1891.	1892.	1891.
January	7,552	5,138	97,230	70,055
February	3,470	3,599	52,891	35,471
March	7,789	4,375	53,116	23,561
April	24,214	15,051	56,897	40,686
May	40,849	32,054	84,650	71,585
June	39,867	31,658	94,911	77,217
July	33,740	34,420	95,272	83,348
August	29,623	24,185	102,551	82,023
September	23,412	21,360	92,458	79,460
October	24,202	19,842	84,927	83,859
November	26,041	21,447	82,410	65,821
December	18,988	16,158	99,395	86,442
Total	179,747	229,287	996,708	799,528

SOUTHERN LUMBER TRADE.

Statistics That Show the Business Handled at Leading Ports.

The lumber and timber industry of the States bordering on the South Atlantic and Gulf ports has shown more than usual activity during the past year, and the situation at the close possessed many promising features, indicative of a still more successful year in 1893. The demand during 1892 was of an active and pronounced character throughout the milling sections from Norfolk, Va., to Beaumont, Texas, and the progressive action of millmen in all the departments of this industry has a decided tendency to increase the volume of business. Concerted action among lumbermen generally throughout the various Southern States has reduced the lumber business to a more perfect system, and the various companies have completed such organizations as will in future give more tone and strength to the general market. The yellow pine trade, which is the primary one in the South, has grown to immense proportions, and the demand has steadily increased in both the domestic and foreign markets. In hardwoods an extended development is already in progress, and new territory is being opened which will eventually place upon the market millions of feet of oak, ash, walnut and other native woods which heretofore have been left untouched. The harbor improvements at the various Southern ports which have been already made and those projected will add still further to the volume of trade in lumber and timber, and even with present facilities the record of the past year in coastwise and foreign shipments shows a greater volume than any in the history of the industry. The following is a summary of the shipments of lumber and timber from the various ports south of Baltimore from January 1 to December 30, 1892, with the corresponding figures for the same period in 1891:

SHIPMENTS OF LUMBER AND TIMBER FROM SOUTHERN PORTS.

	1892. Feet.	1891. Feet.
Norfolk	293,054,467	276,443,150
Charleston	54,965,501	51,226,827
Savannah	140,174,413	133,981,375
Brunswick	106,225,000	....
Fernandina	57,341,465	44,860,930
Mobile	151,647,290	129,150,909
Pensacola	321,156,108	287,448,596
Jacksonville	45,500,600	38,690,290
New Orleans	135,670,870	113,619,064
Total	1,305,735,714	1,075,421,141

Below will be found brief mention of the trade features of each of the principal shipping points during the year 1892:

Baltimore.

Among the primary industries of Baltimore the lumber and timber market presents a greater diversity of interests and conditions and affords a wider field for the investor and capitalist than any other. To the lumbermen of Baltimore the knowledge of all methods pertaining to the trade has long been a valuable acquisition, and the wooded areas from which they draw their supplies have been made a subject of scientific research. Their knowledge of valuable timber territories, coupled with enterprise and capital, has opened up the virgin forests of the Virginias and North Carolina, penetrating also into other States and Territories. The history of the lumber industry of this port dates back to the period when "Baltimore oak" was furnished for the ships of the "King's Navy" and through the various decades the growth of trade has been steady and onward.

The business of the past year has been one of an average character as to volume, while prices have generally tended towards a higher range, and with the exception of a period of depression caused by labor difficulties, there has been a fair movement in progress. The receipts have been liberal, especially in Virginia and North Carolina pine, and the tables of shipments as reported by South Atlantic ports gives Baltimore second place as a receiver. Through shipments of lumber and timber to Europe have been smaller than usual, but the various railroad lines terminating here show a large increase over former years. The demand for various kinds of lumber has been subject to the usual fluctuations, but in kiln-dried North Carolina pine the inquiry has been more decided than in any other. In white pine the business of the year has been fairly active, with prices steady. A liberal demand has prevailed for the various hardwoods, such as oak, ash, walnut and other fancy woods. Shipments of kiln-dried North Carolina pine and other fancy woods have been made to Europe, and from the returns made the indications are that they are becoming very popular for interior decorations, etc. The sources from which the product reaches this port are numerous, and the avenues of distribution in this city and suburban points, through which lumber and timber arrives at its point of destination are also very much diversified. In compiling the receipts of the port under these conditions great care is necessary in securing correct receipts direct and for through shipment. The tables given below represent the receipts and foreign exports of lumber and timber for the year 1891–92:

FOREIGN LUMBER EXPORTS FROM BALTIMORE FOR YEARS ENDING DECEMBER 30.

Articles.	1892.		1891.	
	Quantity.	Value.	Quantity.	Value.
Boards, deals & planks, ft.	28,667,000	$936,035	33,026,000	$1,041,570
Joist and scantling, feet ..	227,000	5,933	133,000	3,057
Logs and other timber, ft.	45,252	240,818	72,000	388,316
Other lumber, feet	......	11,256	......	61,301
Shingles	252,000	2,002	224,000	1,754
Shooks	11,748	15,724	24,267	37,336
Staves and headings	.....	46,079	......	71,503
Sawed timber, feet	6,000	301	209,000	7,636
		$1,258,148		$1,612,473

Below we give the receipts of lumber and timber at Baltimore for two years past, which we have obtained direct from the receivers:

RECEIPTS OF LUMBER AND TIMBER AT BALTIMORE FROM JANUARY 1 TO DECEMBER 30.

Receivers.	1892. Feet.	1891. Feet.
Railroads	132,029,577	120,007,784
Merchants & Miners' Transportation Co..	5,251,803	*..........
Other steamboat lines	15,616,526	*..........
Back basin	58,874,965	50,250,497
Private wharves	70,904,388	50,000,000
Other sources	85,013,979	118,434,822
Total	367,691,238	338,693,103

*Included in "other sources."

Norfolk, Va.

The city of Norfolk, Va., in its lumber record for the year 1892, presents, perhaps, as good a showing as any city on the South Atlantic coast. The industry at this port has a most promising outlook, and with the numerous facilities which characterize every department of the lumber trade its possibilities are almost without limit. The Southside peninsula, from which a large supply of the product reaches this port, may be included in that section of country south of the James, between that river and the Nansemond and the North Carolina line. The counties embraced in this peninsula are Prince George, Surry, Sussex, Southampton, Halifax, Isle of Wight and Nansemond.

The great wooded district, however, of northeast North Carolina furnishes the largest receipts, and from that part of the State lumber and timber are shipped by sound steamers and by rail to this port. The Norfolk peninsula, embracing Norfolk and Princess Anne counties, while not supplying logs and timber, is the primary milling section, and it is in this territory that shape and impetus are given to the general market. The value and importance of the lumber industry is not fully realized by the commercial men of the country, and it has been for years classed as secondary. Facts and figures, however, show that this industry has already become one of prime importance to the commerce of this port. Mr. Samuel R. Borum, secretary of the Norfolk Chamber of Commerce, reports the receipts of lumber for eleven months of 1892 to be 270,054,467 feet, an increase of 14,883,327 feet over the corresponding period of 1891. Of logs 104,126,562 feet were received, being an increase of 32,603,221 feet over last year. The shingle trade of Norfolk has shown remarkable activity throughout the year, and in receipts exhibit an increase of over 3,000,000 during the eleven months under review. In railroad ties the business of the port has largely increased, and in all departments the growth is of a similar character. It is, however, to the millmen of this port that we are to look for the great results which have been accomplished in the lumber trade of the port. Just here a table of the receipts of the port of Norfolk for eleven months of 1892 and for the corresponding months of 1891, as compiled by the secretary of the Chamber of Commerce, will give at a glance the figures of the year:

LUMBER RECEIPTS AT NORFOLK FOR ELEVEN MONTHS.

Articles.	1891.	1892.	Increase.
Lumber, feet	255,171,140	270,054,467	14,883,327
Logs, feet	71,523,341	104,126,562	32,603,221
Staves	3,788,150	8,224,055	4,435,905
Shingles	39,540,476	42,596,746	3,056,270
Railroad ties	320,988	574,050	253,062

Of the receipts of crude lumber that appear in the above statement their disposition is quite well understood. The capacity of the perfect milling plants in the city and adjacent points has been quite equal to the liberal receipts of the year, and the manufacture of lumber has progressed with wonderful activity under the excessive demand for North Carolina pine and other varieties of woods. An organization, incorporated in 1889, known as the North Carolina Pine Lumber Co., has been an important factor in building up trade and reducing to a system the manufacture and sale of lumber. The various milling companies of Norfolk have also brought the manufacture of lumber to a high point of perfection, and the introduction of economical machinery, such as the band saw and other modern appliances, by the Tunis Lumber Co. and others, have also been attended with much success. The introduction of the dry-kiln has enhanced the value of North Carolina pine, and, while there is a large quantity of air-dried placed upon the market, the kiln-dried is in the best demand for general purposes. The shipments by rail and water have progressed with remarkable activity and promptness under the modern methods recently adopted, and the condition and classification of lumber previous to its shipment have received more attention. The general course of the market during the year has been very satisfactory to operators, and the business of the closing month of December will develop perhaps the largest volume of business of any month during the year.

Charleston, S. C.

The general features of the lumber and timber market at Charleston, S. C., during the year have been of a more encouraging character, and the condition of this industry at the close is somewhat improved. Every year brings increased facilities for shipping, and the improvements in the harbor now in progress will contribute largely in benefiting the lumber trade of the port. The supply of lumber during the year has been larger than usual, and the many new sources of production which have been opened up by railroads tapping the forests of the State have furnished better stocks and further means of competing with other ports. As to the range of values, they have generally been more steady and tending slightly higher under a good demand for certain grades which have been popular in domestic and foreign markets. The foreign trade has been of moderate proportions, and the West Indies and South America have been the principal buyers. There is a better demand now from these countries, and every year promises a better volume of trade. It is the coastwise business which has made the best showing, and the trade with Northern ports is growing remarkably well. New York, Philadelphia and Baltimore are the three largest receivers, while other ports have also purchased liberally. The total shipments to foreign and domestic ports from January 1, 1892, to December 30, were 54,965,501 feet, and for the commercial year commencing September 1, 1891, and ending September 1, 1892, were 53,246,608 feet. The shipments from September 1, 1892, to December 30 were as follows: New York 12,543,759 feet, Philadelphia 1,734,292 feet, Baltimore 840,000 feet, Boston 634,740 feet, other United States ports 709,000 feet. Foreign shipments were 1,173,096 feet, and the total coastwise and foreign were 17,934,887 feet.

Savannah, Ga.

One of the most important ports on the South Atlantic coast is the city of Savannah, Ga., which also ranks among the first of the lumber shipping points. The record of the past year shows an interesting development of the business and a steady increase in volume. The general status of the whole market is more satisfactory than it was a year ago, the better organization of the lumbermen of the State having been a factor to this end. In a review of the trade of the year, one of the most notable features has been the increased demand during the summer months, being fully 50 per cent. greater than that of 1891. The business in crossties may have caused a greater volume of trade for this midsummer period, and no doubt did increase the shipments materially. The record of shipments of lumber from the port of Savannah presents very encouraging figures, and taking the record from January 1 to September 1, 1892, we find the coastwise shipments by sail 75,045,624 feet, by steamer 13,431,820 feet, and foreign 10,183,177 feet, mading a total of 96,660,621 feet, against 90,428,393 feet for the corresponding period in 1891. The tone of the market since September 1, the commencement of the commercial year 1892-93, has been fairly active, prices have been very steady, the margin of profits has been slightly better, and for certain dimensions of choice lumber the market was firm and higher at the close of the year.

The shipments of lumber and timber since September 1 to December 30 has been as follows: 43,513,792 feet of lumber, also 2,690,000 shingles, 1820 cases of cedar, 3862 cedar logs, 78,000 staves, 2860 bundles of laths and 389,620 crossties. Total shipments for the year from January 1 to December 30 are 140,174,413. From the above figures it is evident that the current commercial year of 1892-93 will show a larger volume of business, and the outlook on all sides is much more encouraging. The harbor improvements are getting in better shape, and

tangible results are noticeble in the channel leading to the sea. About four months ago vessels drawing twenty-one feet three inches left the wharves and passed out to sea, and on spring tides vessels drawing much more than this could easily go to sea. The appropriation is being well expended towards getting a twenty-six-foot channel, and when completed the facilities for shipping will be first-class. With all these and other improvements in progress to increase the commerce of the port, the lumber and timber trade will show a corresponding improvement.

Pensacola, Fla.

In reaching out for first place as a shipping point for lumber and timber among the Gulf ports, Pensacola has made rapid advancement during the year. About the same conditions govern this market as Mobile, and while the volume of business in the lumber and timber industry shows an increase over that of last year, the trade has been largely restricted by the low stage of water in the streams flowing into the bay.

The present condition of trade is well illustrated by figures furnished at the end of the year closing October 31. The shipments of hewn timber to Great Britain were 216,822 cubic feet, of sawn timber 126,210,000 superficial feet, and of lumber 19,531,000 superficial feet; also 3248 cubic feet of oak.

To the Continent the shipments aggregated 241,450 cubic feet of hewn timber, 41,241,000 superficial feet of sawn timber, and 52,829,000 superficial feet of lumber. Africa took 1,179,000 superficial feet of hewn timber and 625,000 superficial feet of lumber, and South America, West Indies, etc., 38,010,000 superficial feet of lumber, while the coastwise shipments were 20,773,000 superficial feet of lumber.

These figures show a grand total of 458,272 cubic feet of hewn timber, 168,630,000 superficial feet of sawn timber and 131,768,000 superficial feet of lumber. For the corresponding period in 1891 the hewn timber shipped aggregated 530,133 cubic feet, sawn timber 142,887,000 superficial feet, and of lumber 122,250,000 superficial feet. In hewn timber there was a decrease in shipments, owing to a change in the demand, which favored sawn timber, and of which a large increase is recorded.

The volume of trade since November 1 has been very considerable, and the outlook for the future is considered on all sides as encouraging. Advices from points in the interior represent considerable activity in all milling sections, and the development of new territory and erection of milling plants show that lumbermen have confidence in the future of Pensacola as a point of shipment. The formation of an association to regulate prices and systematize trade will also tend to strengthen the market and invite foreign trade.

The total shipments from January 1 to December 30, 1892, are as follows: Hewn timber 466,009 cubic feet, sawn timber 175,479,000 superficial feet, and of lumber 140,085,000 superficial feet. From the above figures the total shipments for the year in superficial feet will aggregate 321,156,108 feet, against 287,448,596 feet for 1891.

The movement in shingles during the year has been very important, and the business is steadily growing, the coastwise shipments for the year being 3,004,000 and to the West Indies 25,000.

Mobile, Ala.

The commercial history of Mobile gives it rank as one of the most prominent of the Gulf ports, and it has long been known as one of the leading ports for the shipments of cotton. The valuable timber lands of Alabama and Mississippi also contribute largely to the commerce of the port, and the lumber and timber industry of the city has long held a position of great importance among the Gulf ports. The shipments for eight months of the year 1892 show a remarkable increase over those of 1891, the gain in lumber and timber being nearly 16,000,000 feet, and 6,800,000 more than the largest previous record shows. The shipments of lumber since September 1 of 1892 aggregate 23,378,530 superficial feet, against 18,605,853 feet for the corresponding period in 1891. Of hewn timber 602,495 cubic feet have been shipped since September 1, against 442,106 cubic feet in 1891. Shipments of sawn timber for the same period reached 588,425 cubic feet, against 230,382 cubic feet in 1891. The total shipments since September 1, according to the above, are 37,769,570 superficial feet, being an increase of 10,993,861 feet over the corresponding period of 1891. The total shipments from January 1 to December 30, 1892, aggregate 151,647,290 feet, against 129,150,909 for 1891. The general market throughout the year has shown considerable activity, and in the main prices have been very steady for lumber. Timber, both hewn and sawn, has been scarce and higher, but prices in Europe for some time past have not been such as to encourage shippers. The improvement in the lumber industry of the port may be attributed to several reasons, the principal one, however, being the improvement of the harbor, and very soon vessels of the largest class will enter. The decline in cotton has affected the shingle trade to a great extent, but under the conditions a most remarkable showing is recorded. The Mobile Shingle Association has been incorporated, and with a complete organization this branch of the lumber industry is represented as quite flourishing. The business during the year has been very considerable, reaching sales of over 100,000,000.

Maryland's Canning and Packing Industry.

The fruit and vegetable-canning industry, which ranks among the most important in Maryland, has had a fairly prosperous year. The pack of fruits and vegetables has been large in everything but peaches, the peach crop of the past season having been only about one-sixth of the usual crop. About 360,000 bushels of green peas have been canned, and the pack of small fruits and berries has been of about usual proportions. The tomato pack has been larger than for several years. The output of the Maryland canneries during the past season is estimated to be about one-third of the entire product in the country. A dozen years ago Maryland canners produced about five-sixths of the entire output. Maryland's smaller percentage at the present time is not due to any decline in this State, but to the rapid growth of the industry elsewhere. Maryland's business is increasing, not diminishing.

While Baltimore counts canning among her greatest industries, a surprisingly large amount of business is done elsewhere in Maryland. In Kent, Queen Anne's and Caroline counties there have been forty-five plants in operation during the past fall, employing from fifty to 500 hands each. In the vicinity of Westminster are thirty plants, numbering from forty to 450 hands each, while at the present time Harford county, just northeast of Baltimore, has 200 farmers who pack from 2000 to 20,000 cases each in a season. This counts up seventy-five plants outside the individual packers and the large houses in the city. The exact number in the State now in active operation is not exactly known, as some have shut down after working on one brand of goods, but experts reckon the establishments outside the city hiring over fifty hands this season at ninety-five. None of these employs over 500 people. The individual packers of over 2000 cases capacity are figured at 325, Harford county having over one-half.

Harford county appears to have been the pioneer section of the country in vegetable packing. Going back thirteen years, one finds that nearly 300 farmers had packing-houses on their places, with a little machinery of a crude type and the hand process very slow. But the profits were so large that many of the growers became wealthy. They supplied the New York market and sold to jobbers at prices which ran as high as $1.25 per case, and the orders often ran as high as 10,000 and 15,000 cases at one time. But finally the market began to be worked by speculators, and about six years after the time mentioned prices were forced down to fifty and fifty-five cents, and in one instance to 37½ cents per dozen. This depression ruined scores of packers, and nearly 150 left the business in Harford county; but a reaction set in, prices went up to eighty-five and ninety cents, and for the last five years there has been a slow but steady increase in the section named, until 200 are this year making small profits from the industry. Harford county's specialty is corn and tomatoes. The soil is excellent for these vegetables, and the pack is considered "A1" by the trade.

As to the other sections outside of the city, packers in and around Westminster have put up cherries, lima beans and peaches this season, as the western Maryland peach crop was only a partial failure, and, while the peaches of this section are only fair for preserving, they found a ready demand, owing to the general failure of the crop elsewhere. Going to the Eastern Shore, one finds peaches, strawberries, blackberries, raspberries, in fact, all sorts of berries, put up this season, while tomatoes were substituted largely for peaches, which is the great pack of Kent, Queen Anne's and Caroline counties. Lima beans and string beans were also packed extensively.

Baltimore has forty packers, who have employed from 50 to 1650 hands this year. Besides these are fifteen of what the trade term "alley packers," who put up pickles as well as fruit and oysters, and sell them in small lots to retailers as well as jobbers. This year close estimates put the number of persons working in all these houses at 12,000, or 3100 more than the census figures for 1890, while 8000 more work in canmaking, box and other factories where machinery and goods for packers are turned out. These figures are based on estimates of December 1, when oysters and fruit were both being packed. The wages of those in the packing-houses ran from $1.00 to $12.50, averaging $6.25 a person. In other words, $75,000 was paid for labor in these houses in a week.

Statisticians in the canning trade base their estimates of the pack considerably upon the output of the can-making shops in Baltimore, which supply 90 per cent. of Maryland's trade. Including December, it is estimated that 112,000,000 2 and 3-pound cans were made in these shops, of which 75,000,000 went to the city packing-houses and the balance to the State at large. This would put the total output of the vegetable and fruit trade in city and State, including pineapples, at about 125,000,000 cans.

Pineapple packing is an industry monopolized by Baltimore houses. From a small beginning ten years ago it has grown steadily until 250,000 cases won't be too large a figure to put on the output for 1892. A number of schooners of 144,000 capacity each run during the season to the West Indies, and in the height of the ripening period the weekly receipts will average over 50,000 dozen. T. B. Shaw is about the largest pineapple importer in Maryland, and has a fleet of vessels in the trade. "Pine" packing lasts from May 10 to about July 31, and during the past season 574,000 dozen of the fruit were imported and packed in Baltimore.

OYSTER PACKING.

One has to approach the oyster question with diffidence. No subject has ever been more discussed by packers than the oyster catch. On the question, "Is it decreasing or increasing?" you will find experts almost equally divided. In 1881 900 schooners and pungies with crews averaging five men each were engaged in dredging Chesapeake bay and its tributaries. About 2000 boats with two men each were in the tonging trade, and half as many crafts with two or three men in the crew were scraping. In all nearly 12,000 men followed the business. This season the best judges place the number of dredge boats at 675, tongers 1500 and scrapers at 750, with a total of 8250 men in the business.

Advocates of the theory that oysters are being all dredged out of the Chesapeake say business has fallen off because the supply has fallen off. Their opponents say many of the oyster boats have become used up, and that the high licenses have driven men out of the business. Whoever is right, these are the figures. In 1891-92 Baltimore firms took care of about 5,600,000 bushels, a falling off of about 2,500,000 bushels from the year previous. The year 1892-93 from present indications will show receipts of 5,750,000 bushels. In 1880 you could easily buy a bushel of medium size and quality at twenty to twenty-five cents; now fifty cents is no more than a fair price.

One bushel of fair-sized cove or cooked oysters will yield about fifty-four ounces of solid meat. This season will see at least 2,250,000 bushels of "coves" put up, or about 7,600,000 pound cans.

From the above figures some idea may be gained of the condition of the business, as the balance of the 5,740,000 enters into the raw trade principally. Besides the forty large packers in Baltimore, a large quantity of oysters are now cared for at Crisfield and St. Michael's, on the Eastern Shore of Maryland, and at Annapolis, at the mouth of the Severn river. Baltimore takes about two-thirds of the Chesapeake supply and the balance is divided among these places.

The two-and-a-half-inch cull law, most oystermen admit, was very instrumental in causing the large falling off in the production of 1890-1891. By it no oysters can be brought to market whose shells are less than two and a-half inches from lip to hinge. There is no doubt but what the law is frequently violated and thousands of undersized oysters taken, but still the law has had a good effect on many of the vessel captains and prevented them from carrying seed oysters to market.

The packing business for the year has been regarded as fair. Oysters are usually in great demand during a presidential year, but this year was a notable exception, the demand being light so far. The outlook, however, for Maryland packers is unusually bright, as it is known that the stocks of canned goods all over the country are very light, especially in the West. A very large temporary demand will also be created by the Columbian Exposition, and it is generally believed by the trade that the year 1893 will be a red letter one with the packers of all sorts of food.

In this connection the appended statistics of the Maryland oyster industry will be of interest:

	1880.	1891.
Persons employed	13,748	32,104
Capital invested	$3,928,376	$6,677,302
Oysters caught, bushels	10,600,000	9,945,058
Value of oysters	$4,730,476	$5,295,866

A CHARTER has been granted to the Hope Lumber Co., of Marshall, Texas, with a capital stock of $80,000 and the following incorporators: John Martin, D. H. Scott, W. C. Pierce, E. J. Fry and J. Palford.

IRON TRADE OF THE SOUTH IN 1892.

A Year of Large Production, but of Low Prices.

The year 1892 has been an unsatisfactory period for the iron and steel industries of the whole country. At the beginning of the year production of all kinds of iron and steel was large and prices were weak and declining. The activity in the blast furnace industry, which was a prominent feature of the closing months of 1891, was continued at the beginning of the present year, and the consumption was not sufficient to absorb the heavy output. Stocks of unsold pig iron therefore increased and the competition for business led to declining prices, which continued through the summer months, and in July and August the quotations for pig iron were the lowest ever before known in the history of the trade in this country.

The rate of production of pig iron, however, gradually decreased with the decline in prices, reaching its lowest point during the month of September. The monthly rate of production during the year 1892 is shown in the following table, compiled from various pig iron authorities. The total production for the first six months of the year is the official total of the American Iron and Steel Association, the data for the latter half of the year being estimated from well-known sources:

	Gross Tons.		Gross Tons.
January	839,384	July	723,061
February	797,402	August	684,307
March	848,020	September	668,587
April	786,202	October	733,740
May	786,426	November	749,326
June	741,622	December	785,628
Total first half	4,799,056	Total second half	4,344,649

The production for 1891 and 1892 by half years is shown in the following statement, the figures for the last half of 1892 being estimated:

	1891. Gross tons.	1892. Gross tons.
First half	3,368,107	4,799,056
Second half	4,911,763	4,344,649
Total	8,279,870	9,143,705

The reduction in output, which began in June and continued to October, brought the production somewhat below the consumption, causing stocks to diminish. These conditions of the industry stimulated buyers to greater activity in placing orders, resulting in a stiffening of prices during the fall months, but a weakening tendency developed during the closing weeks of the year. The range of prices of Southern No. 1 foundry pig iron at Cincinnati as given in the following table graphically shows the course of the Southern pig iron trade during the year. The prices have been obtained by averaging the quotations for each week:

PRICE OF NO. 1 SOUTHERN FOUNDRY PIG IRON AT CINCINNATI.

Month.	Highest.	Lowest.
January	15.25	14.75
February	15.25	14.50
March	15.00	14.25
April	14.75	13.75
May	14.25	13.75
June	14.25	13.50
July	14.00	13.25
August	13.75	13.25
September	13.75	13.25
October	14.00	13.25
November	14.00	13.75
December	14.00	13.75

Notwithstanding the active competition for business in the leading markets of the country, and the low prices which the furnace companies were compelled to accept for their products, the Southern producers have suffered less from the reactionary influences of the trying periods of 1891 than the Northern and Western works. The average prices of pig iron have been so low that the Southern furnace owners have been forced to adopt a more careful and economical system of management and reduce the cost of production by closer attention to the materials used in the furnaces. The experience thus gained has, in a great measure, benefited the Southern producers, as it has brought forward more prominently the advantages which the works in this section possess as competitors in the markets of the country. Greater attention to the preparation of the coal and coke used, purer ores, and the more effective discipline of the labor at the different plants, have not only resulted in lower costs and larger output per furnace, but have to a considerable extent improved the character of the pig iron made. While there have been very few new iron and steel enterprises started in the South during the past year, the majority of the older plants have been actively employed throughout the year, and a number of the works which were under construction at the beginning of the year have been completed and put in operation. A review of the progress in the different States is given in detail below.

Production of Pig Iron.

In the following statement we give the production of pig iron in each of the Southern States during 1891 and 1892. The figures for the last half of 1892 have been compiled from returns received directly from the manufacturers and by the aid of our numerous correspondents throughout the iron-producing districts of the South. While the totals are, therefore, to some extent estimates, it is believed that they closely approximate the actual figures of production during the period mentioned. The statistics prior to June, 1892, are those of the American Iron and Steel Association:

PRODUCTION OF PIG IRON IN THE SOUTH IN 1891.

(Tons of 2240 pounds.)

States.	Jan.-June.	July-Dec.	Year.
Maryland	44,636	78,763	123,399
Virginia	126,703	168,589	295,292
North Carolina	896	2,321	3,217
Georgia	18,215	31,642	49,857
Alabama	336,062	459,612	795,674
Texas	7,558	11,104	18,662
West Virginia	18,729	67,553	86,282
Kentucky	16,767	28,077	44,844
Tennessee	129,523	162,215	291,738
Total	699,089	1,009,876	1,708,965

PRODUCTION OF PIG IRON IN THE SOUTH IN 1892.

(Tons of 2240 pounds.)

States.	First half.	Sec'd half.	Total.
Maryland	49,981	55,562	105,543
Virginia	164,086	181,247	345,333
West Virginia	80,238	88,985	169,223
Kentucky	32,649	14,335	46,984
Tennessee	157,214	160,268	317,482
North Carolina	1,853	1,015	2,868
Georgia	3,330	6,270	9,600
Alabama	479,131	469,471	948,602
Texas	6,403	2,257	8,660
Total	974,885	979,410	1,954,295

Maryland.

In Maryland the chief interest in iron and steel matters centres in the operations of the Maryland Steel Co., at Sparrow's Point, near Baltimore. The four blast furnaces and large steel-rail plant of this company were completed and put in operation in 1890, as was also the shipyard of the company. A number of vessels were constructed at the yard during 1892, and the equipment of the plant is being constantly increased, so that the company will soon be enabled to build the largest vessels required for any service. An open-hearth steel plant will be added to the works to supply material for the manufacture of plates and shapes for bridges and buildings as well as for ships.

Maryland is the only Southern State which has yet gone into the new industry of manufacturing tinplate. Four enterprises of this kind have been developed in the State. The Locust Point Iron and Steel Works of Coates & Co., which commenced erecting a tinning plant in 1891, completed it in 1892, and began turning out an excellent quality of tinplate, making the black plate in its own rolling mill. Last summer the plant was burned, but has been rebuilt on a larger scale, and the firm has recently been changed to a company under the name of the Locust Point Iron & Steel Works Co. Messrs. Matthai, Ingram & Co., of Baltimore, are large manufacturers of tinware and have erected a tinning plant for coating purchased black plates. The Cumberland Steel & Tinplate Co., of Cumberland, Md., is composed largely of Philadelphia capitalists, who have purchased the Crown and Cumberland Steel Works, at Cumberland, and equipped it with new machinery for the rolling and finishing of black plates for tinning. The company expects to be able to start the rolling of black plates early this year. On the last day of 1892 an experimental run was made in another new tinplate mill at Canton, Baltimore, which has recently been built by Mr. E. Rice Daniel, the proprietor of the Crom Felin Works in Swansea, Wales. This plant will have capacity for coating 2000 boxes per week.

The machinery formerly operated by the Paterson Iron Co. at Paterson, N. J., has been removed to Curtis Bay, Baltimore, and a merchant bar mill is being added, about 8000 tons of bar iron being used annually by neighboring manufacturing establishments. The new concern will be known as the Baltimore Rolling Mill Co., and will give special attention to the manufacture of steel plates.

No new blast furnace enterprises have been started in Maryland during 1892, and the only noteworthy change in the old establishments is the sale last spring of the well-known Principio furnace property to a new organization called the Whitaker Company.

Virginia.

The two furnaces of the Appalachian Steel & Iron Co. at Big Stone Gap have been completed, and one of the stacks was first blown in on May 4. The company uses coke made from the same vein as Pocahontas, near Big Stone Gap, and makes a specialty of low phosphorus and standard foundry pig iron.

The Alleghany Iron Co. completed its coke furnace plant at Iron Gate during the month of November, and the first cast was made on December 1. The furnace is 65x13 feet, with 70x16 fire-brick stoves, and has an annual capacity of 20,000 tons.

Mr. Frank Lyman, of New York, has purchased the partly constructed furnace of the Covington Iron Co. at Covington, and work is being actively pushed towards the completion and starting up of the plant. The furnace will be of large size and well equipped, and is expected to be able to produce close to 50,000 tons annually.

The furnace of the Radford-Crane Iron Co. at Radford and the furnace of the Max Meadows Iron Co. at Max Meadows have both been completed, but not yet blown in.

The Dora furnace of the Pulaski Development Co. at Pulaski City was completed early in the year and was blown in on May 23. This furnace is 75x17 feet in size, has three Whitwell stoves and is rated with a capacity of 50,000 net tons of pig iron yearly.

The Roanoke Iron Co. completed during the early part of the year its rolling mill at Roanoke, and it was first put in operation in September. The plant is well equipped, and its puddling department is numbered among the largest in the State.

The Salem Rolling Mill Co., which began in 1891 the erection of a rolling mill at Salem to manufacture muck bar and cotton ties, has not yet completed its works, owing to legal complications. The buildings are erected and part of the machinery is on the ground, but not yet in place. Arrangements have recently been effected to complete the erection of the plant for the manufacture of cotton ties, and it is expected that the mill will be finished and started up at an early day.

The Crescent Horseshoe & Iron Co. has completed its rolling mill at Max Meadows, and the horseshoe machinery formerly operated in Baltimore by W. F. Holliday & Co. has been removed and erected in the works of the Crescent Company. The Shenandoah Iron Co. has completed the fine merchant mill which it was building at Shenandoah early in the year, and the new plant will be operated in connection with the company's present blast-furnace plant at the same place.

The Glasgow Rolling Mill Co., of Glasgow, and the Buena Vista Steel Co., of Buena Vista, commenced the erection of works in 1891, the former to manufacture merchant bar iron and the latter open-hearth steel. Work was suspended on both of these plants, and has not yet been resumed.

North Carolina.

The completion of the large coke furnace of the North Carolina Steel & Iron Co. at Greensboro marks an important advance in the iron industry of North Carolina. This is the first furnace built in the State to use coke, although the Cranberry furnace, which has alternated between charcoal and coke, will in the future, as it has done during the larger part of the past year, employ the latter fuel exclusively. The North Carolina Steel & Iron Co. owns and controls extensive local deposits of iron ores which are low in phosphorus and sulphur, and in designing its plant special attention was given to the economical loading, handling and transporting of the various raw materials necessary to the manufacture of pig iron. Coke from the Pocahontas district will be used. The company proposes erecting at an early day a rolling mill for the manufacture of bar iron, and also shops for the construction of freight cars.

Alabama.

There have been no additions during the past year to the list of iron and steel works in existence in Alabama at the beginning of 1892, but several noteworthy changes have taken place in the industry of the State during this period. The most important event to be noted is the consolidation of the Tennessee Coal, Iron & Railroad Co., the DeBardeleben Coal & Iron Co. and the Cahaba Coal Mining Co. The union of these companies makes the new corporation, which preserves the name of the Tennessee Coal, Iron & Railroad Co., by far the largest producer of pig iron for the open market in the world. The new company controls seventeen blast furnaces, four of which are in Tennessee and thirteen in Alabama, with an annual capacity of about 600,000 tons of pig iron, while the coal mines are capable of producing 3,000,000 tons of coal annually and the coke ovens 1,000,000 tons of coke. The company contemplates turning part of its pig iron output into steel, plans for a steel plant being already matured.

The financial embarrassments of the enterprises at Fort Payne have not yet been so adjusted as to lead to the resumption of work at that place. The Talladega furnace property, which was in a receiver's hands for a considerable time, has been sold and is to be operated by the Talladega Furnace Co., a new organization. The

Jenifer Iron Co. at Jenifer has rebuilt its charcoal furnace and equipped it with fire-brick stoves, while the Bass Furnace Co. has remodeled its charcoal stack at Rock Run.

The Henderson open-hearth steel plant at Birmingham, which has been idle for the past two years, is again being put in working shape. Improvements have been adopted which it is expected will greatly cheapen the cost of the product. Negotiations are pending for the erection of steel plants and the starting up or enlargement of several rolling mills in Alabama, but we make no mention of these enterprises, as definite arrangements have not yet been made.

West Virginia.

The most important event in the iron industry of West Virginia during the past year was the consolidation of the interests of the Benwood Iron Works, the Wheeling Iron & Nail Co. and the Belmont Nail Co. under the name of the Wheeling Iron & Steel Co. The new company now owns and operates three blast furnaces, three large nail mills and one sheet mill, besides a two-thirds interest in the Wheeling Steel Works. The three companies above mentioned have long been numbered among the largest nail manufacturers in the country, and as such have exerted a great influence in the nail trade. Under the new arrangement, with the consequent reduction of expenses and the elimination of a considerable competitive element, the consolidated company should be a still more potent factor in this branch of the iron business. The works of the new company have an aggregate annual capacity for manufacturing 130,000 tons of pig iron and 1,100,000 kegs of nails, besides a large quantity of muck bar for sale, skelp iron and iron and steel sheets. The company is considering plans to enlarge the plant to include the manufacture of wrought-iron pipe and structural and bridge material.

Kentucky.

There have been no important changes during the year in the iron industry of Kentucky. The two large coke furnaces of the Watts Steel & Iron Syndicate, Limited, at Middlesborough, which were completed in 1891, have not yet gone into blast, but are now stocking up preparatory to starting. The construction of the extensive open-hearth steel plant of this company, which was seriously delayed by the financial embarrassment of the contractor, has been pushed forward, and the works are now practically finished. The charcoal furnace of the Cumberland Gap Iron Co., which was started in 1890, is not yet erected. The Grand Rivers Co. blew in its two new charcoal furnaces at Grand Rivers early in the year, but both are now cold. The old Licking furnace at Newport, which has been idle for many years, has been abandoned.

Outside of the work of the Watts Syndicate at Middlesborough and the improvements at the Newport Rolling Mill Co.'s plant at Newport and at other works in the State, nothing of importance has taken place in the rolling mill and steel industry of Kentucky. The Ashland Steel Co., which made the first blow in its Bessemer converters on December 26, 1891, has secured good results in the operations of its works. This is the first and only Bessemer steel plant in the State. It is expected that the machinery removed from the South Boston Iron Works will shortly be set up at Middlesborough.

Tennessee.

The Embreeville Freehold, Land, Iron & Railway Co., Limited, a company composed of English capitalists, completed its coke furnace at Embreeville early in the year, and the first cast of metal was made on March 31. This furnace is 80x19 feet, and is one of the largest stacks in the South. The annual capacity of the furnace is about 50,000 tons of foundry iron. Local hematite ores are used, smelted with coke from the Pocahontas field.

Three other furnaces have been added to the active list of works in this State, all of which were far advanced toward completion at the beginning of the year. The furnace of the Carnegie Iron Co. at Johnson City and the furnace of the Gracey-Woodward Iron Co., of Clarksville, were built to use coke, but neither stack has yet been put in operation. The furnace of the Napier Iron Works went into blast on February 10, using charcoal.

The Southern Iron Co. is engaged in removing its Nashville furnaces at West Nashville to a better field for the supply of raw materials in Wayne county. The old Cumberland furnace in Dickson county belonging to this company has been abandoned, and work has been commenced upon the erection of a modern furnace plant at the same place. Nothing has been done by the Cardiff Coal & Iron Co. towards the erection of the furnace started in 1890, upon which work was suspended.

The plant of the South Tredegar Iron Co. at Chattanooga, which was sold under foreclosure proceedings, will probably be dismantled and the machinery sold. Besides the works of the Lookout Iron Co., which was removed from Chattanooga to Harriman, the latter city will soon have a muck bar mill, which is being built by D. W. Duke and James McCoy, under the name of the Harriman Rolling Mill. This mill will contain one heating furnace and three puddling furnaces, and will roll muck bar and special shapes for railroad use. It is expected that the mill will be running by March.

The Roane Iron Co. at Rockwood, Tenn., has concluded to tear down one of its old stacks and erect a larger and more modern furnace in its place. The plans have all been prepared, and as soon as certain financial matters have been arranged, which late reports state will be very soon, this work will be undertaken.

THE SOUTHERN COAL INDUSTRY.

Statistics of Production by States—New Mining Companies Organized During the Year.

From figures which we have gathered from mining companies, from State officials and from numerous well-posted correspondents, we place the total output of bituminous coal in the South in 1892 at 24,612,647 net tons, as compared with 23,636,312 tons in 1891, showing an increase of 1,000,000 tons. The following table shows the production by States for two years past. For the sake of uniformity we have reduced the figures in all cases to net tons of 2000 pounds :

PRODUCTION OF COAL IN THE SOUTH.

(Tons of 2000 pounds.)

States.	1891.	1892.
Alabama	4,759,781	5,125,000
Arkansas	542,379	565,000
Georgia	171,000	160,000
Kentucky	2,843,082	2,967,037
Maryland	3,831,251	3,378,222
North Carolina	11,440	6,500
Tennessee	2,413,678	2,750,000
Texas	172,100	190,000
Virginia	736,399	760,000
West Virginia	8,155,202	8,710,888
Total	23,636,312	24,612,647

The increase in Alabama, Kentucky, Tennessee and West Virginia as compared with 1891 is about 1,250,000 tons, but the decrease in the output from the Cumberland region of Maryland reduces this gain by nearly 500,000 tons. The increase for the year is much smaller than for several years past, but the industry has been in a very satisfactory condition throughout the year, and development has taken place in several directions which will result in an immediate increase in the output to supply new markets that have been made available. There have been fewer new mining companies organized than in previous years, but existing concerns have been well engaged and as a rule have worked up to their capacity.

Maryland.

In order to make them conform to the practice followed in other States, we have reduced the figures for the Cumberland region to short tons, the table below containing the output by the Maryland companies during the past two years:

PRODUCTION OF COAL IN MARYLAND.

(Tons of 2000 pounds.)

Companies.	1891.	1892.
Consolidation Coal Co.	1,020,294	284,064
American Coal Co.	503,587	1,022,321
Maryland Coal Co.	455,240	198,234
George's Creek Coal & Iron Co.	399,758	333,348
Borden Mining Co	336,300	5,781
New Central Coal Co	231,630	154,265
Barton & George's Creek Valley Co.	225,259	80,538
Potomac Coal Co.	206,871	16,577
Union Mining Co	200,740	225,529
Franklin Consolidated Coal Co.	85,784	74,685
Big Vein Coal Co	70,372	11,780
Piedmont-Cumberland Coal Co.	47,532	430,843
Swanton Mining Co	36,992	314,658
Anthony Mining Co	10,892	225,599
Total	3,831,251	3,378,222

The following table gives the production for the State for ten years past:

PRODUCTION OF COAL IN MARYLAND.

(Tons of 2000 pounds.)

1883	2,476,075
1884	2,765,617
1885	2,833,337
1886	2,517,577
1887	3,278,023
1888	3,479,470
1889	2,939,715
1890	3,357,813
1891	3,831,251
1892	3,378,222

The shipments from the Cumberland region by the Chesapeake & Ohio Canal in 1892 amounted to 265,799 long tons, as compared with 51,390 tons in 1891. The shipments in 1892 were by the following companies: Consolidation Coal Co., 209,112 tons; George's Creek Coal & Iron Co., 35,262 tons; Black, Sheridan & Wilson, 18,074 tons; West Virginia Central, 3004 tons; Anthony Mining Co., 346 tons.

Virginia.

Most of the coal ordinarily assigned to Virginia properly belongs to West Virginia, although the outlet of the chief producing region, the Flat-Top field, is through Virginia. The production for Virginia is given by the United States Geological Survey as follows, with the exception of 1892, which we have supplied:

PRODUCTION OF COAL IN VIRGINIA.

(Tons of 2000 pounds.)

1888	1,073,000
1889	865,786
1890	784,011
1891	736,399
1892	760,000

The figures for 1888 probably include shipments of coal from the Flat-Top field in West Virginia.

The coal traffic of the Norfolk & Western Railroad in 1892 amounted to 128,582 cars of coal and coke, as compared with 116,566 cars in 1891. The shspments in December, 1892, were 12,266 cars.

The increase in the coal trade of Norfolk is shown by the following statement of Pocahontas coal cleared by William Lamb & Co. during the past three years:

SHIPMENTS OF POCAHONTAS COAL FROM NORFOLK.

	1890.	1891.	1892.
Foreign	37,723	27,997	25,653
Coastwise	926,451	1,196,248	1,364,467
To steamers	102,755	135,112	128,329
Ocean tugs	14,567	18,780	20,871
Local	71,010	90,606	96,869
Total.	1,152,507	1,468,743	1,636,199

In 1892 coal was taken by 1694 vessels at Lambert's Point, Norfolk, as against 1630 in 1891, 1439 in 1890, and 1147 in 1889.

The following companies organized during 1892:

Big Stone Gap Colliery Co., Big Stone Gap.
James River Coal Co., Huguenot.
Kinney & Wegner, Staunton.
Virginia Hard Coal Co., Vickar's Switch.
Elliott's Knob Iron, Steel & Coal Co., Buffalo Gap.

Kentucky.

Mr. C. J. Norwood, inspector of mines, gives us the production of coal in Kentucky during 1892 as follows:

OUTPUT OF BITUMINOUS COAL IN KENTUCKY.

For eleven months ending December 1, 1892 :	Short tons.
Lump	1,050,683.88
Nut	295,344.92
Mixed lump and nut	437,775.48
Run of mines	488,509.44
Pea	68,177.52
Slack	195,512.48
Miscellaneous	116,594.12
Total to December 1	2,652,597.84
Estimated for December	314,439.80
Total for the year	2,967,037.64

OUTPUT OF CANNEL COAL.	Tons.
For eleven months ending December 1, 1892	49,683
Estimated for December	4,130
Total for the year	53,813

PRODUCTION OF COKE.

	Western field.	Eastern field.	Total tons.
For 11 months to December 1	27,236.95	4,714.25	31,951.20
Estimated for December	3,300.00	500.00	3,800.00
Total for the year	30,536.95	5,214.25	35,751.20

The table given below contains the figures of Kentucky's production for a term of years:

PRODUCTION OF COAL AND COKE IN KENTUCKY.

(Tons of 2000 pounds.)

Years.	Bituminous.	Cannel.	Coke.
1880	946,288	....	4,250
1881	1,100,000	....	4,370
1882	1,300,000	....	4,070
1883	1,650,000	....	5,025
1884	1,550,000	....	2,223
1885	1,600,000	....	2,704
1886	1,650,000	....	4,528
1887	1,933,185	....	14,565
1888	2,342,058	41,825	23,150
1889	2,205,434	40,825	9,340
1890	2,483,144	49,382	20,710
1891	2,843,082	42,870	32,693
1892	2,967,037	53,813	35,751

During the past year the following companies have been organized in Kentucky:

Monarch Coal & Coke Co., Pike county.
Southern Land & Improvement Co., Pineville.
Jellico & Birdeye Coal Co., Jellico.
Ohio Valley Coal & Mining Co., De Koven.
Little Sandy Coal & Land Co., Grayson.
Todd Coal Co., Beattyville.
Lee Coal Co., Beattyville.
Southern Coal Association, Louisville.
Powell's Valley Coal & Iron Co., Louisville.
Mingo Coal Co., Middlesborough.
Kentucky Cannel Co., Louisville.

West Virginia.

The production of coal and coke in West Virginia for a period of years is shown by the following tables, the figures being from the annual reports of the mine inspectors:

PRODUCTION OF COAL IN WEST VIRGINIA.

Years. (Years ended June 30.)	Net tons.
1880	1,404,008
1881	1,803,984
1882	2,416,960
1883	3,142,234
1884	3,249,839
1885	3,369,062
1886	3,598,664
1887	4,936,820
1888	5,375,564
1889	5,405,167
1890	6,002,080
1891	8,155,202
1892	8,710,888

PRODUCTION OF COKE IN WEST VIRGINIA.
(Years ended June 30.)

Years.	Net tons.	No. ovens.
1880	121,715	631
1881	164,058	689
1882	202,103	878
1883	225,893	962
1884	228,472	1,005
1885	260,571	1,078
1886	264,168	1,154
1887	442,031	2,080
1888	499,985	2,137
1889	360,716	2,453
1890	892,490	3,442
1891	1,238,418	4,117
1892	1,313,449	5,490

The shipments from the Flat-Top field reached near the 3,000,000 mark last year, the total being 2,950,000 tons, a gain of over 600,000 tons for the year. The shipments via Norfolk & Western Railroad for five years past have been as follows:

FLAT-TOP COAL AND COKE SHIPMENTS.
(Tons of 2000 pounds.)

Year.	Coal.	Coke.
1888	1,567,983	202,808
1889	1,813,745	310,504
1890	2,044,567	433,319
1891	2,341,226	466,016
1892	2,950,000	550,000

The coal traffic of the Chesapeake & Ohio Railroad for 1892 amounted to 3,088,104 net tons, which represents a gain of 300,000 tons over the business of 1891.

The upper Potomac region shows a loss of 28,666 tons in 1892 as compared with 1891. The output for two years is shown below:

PRODUCTION OF COAL IN UPPER POTOMAC REGION.
(Tons of 2000 pounds.)

Companies.	1891.	1892.
West Virginia Cent. & Pitts. Elk Garden	473,413	403,972
Davis Coal & Coke Co.	154,562	115,725
Thomas mine	75,427	122,002
Davis & Elkins mine	112,275	86,087
Elk Garden Big Vein	6,830	43,079
Cumberland Coal Co., Douglas mine	15,734	70,898
Atlantic & George's Creek	103,980	46,301
Hampshire mine	2,719	25,965
Big Vein Coal Co.	637	4,376
Miscellaneous	1,494	....
Total	947,071	918,405

The upper Monongahela field produced during the year ended June 30, 1892, 913,893 tons of coal and 227,030 tons of coke, as compared with 722,594 tons of coal and 165,482 tons of coke during the year preceding. The output of the mines in the Fairmont district for the calendar year 1892 is given as follows:

	Coal. Tons.	Coke. Tons.
Monongah Coal & Coke Co.	376,535	89,185
Montana Coal & Coke Co.	163,788	62,046
Gaston Coal & Coke Co.	132,490	26,173
West Fairmont Coal & Coke Co.	75,569	15,475
Acme Coal & Coke Co.	31,518	8,175
Hutchinson Coal & Coke Co.	19,873	8,362
Clark Coal & Coke Co.	15,107	641
Virginia & Pittsburg Coal & Coke Co	6,285	....
Total	821,165	210,057

The Clark Coal & Coke Co. commenced shipping coal in May and its coke ovens were lighted November 15. The Virginia & Pittsburg Coal & Coke Co. began shipping coal last June and has a coke plant now under construction. The output of coal in this district has been somewhat restricted of late on account of the scarcity of cars, and it is anticipated that this section will increase its output two-thirds during 1893.

The new coal and coke companies in West Virginia during the year are as follows:

L. O. Smith, Colliers.
Shawnee Coal & Coke Co., Elkhorn.
Bryar Hill Coal & Coke Co., Fairmont.
Brooklyn Coal Co., Fayette county.
Junior Coal Co., Junior.
West Fork Coal & Coke Co., Fairmont.
Dunlow Coal Co., Dunlow.
Clark Coal & Coke Co., Fairmont.
Belington Coal & Coke Co., Belington.
Long Creek Co., office, Richmond, Va.
Phœnix Coal & Coke Co., Elkhorn.
Hope Mining Co., Paint Creek.
Phœnix Mining Co., Paint Creek.
Glen Falls Coal & Coke Co., Clarksburg.
A. J. Flesher, New Haven.
Eureka Coal & Coke Co., Dans Branch.
Jefferson Coal Co., Piedmont.
Peerless Coal & Coke Co., Elkhorn.
Greenbrier Coal & Coke Co., McDowell.
Snowy Creek Coal & Coke Co., Corinth.
Rolfe Coal & Coke Co., Rolfe.
Queen City Coal Co., Queen City.
Elk Ridge Coal & Coke Co., Elkhorn.
Ferguson Splint Coal Co., Ferguson.
Roanoke Coal & Coke Co., Rolfe.
Philippi Coal & Coke Co., Philippi.
Pennsylvania Coal & Mining Co., Belington.
Valley Coal & Lumber Co., Philippi.
Falling Rock Cannel Coal Co., Charleston.
Baltimore Mining Co., Charleston.
Ford Run Coal Co., Philippi.
Cunard Coal Co., Rush Run.
Grayton Mining Co., Grayton.
Arbuckle Creek Coal & Coke Co., Fayetteville.
Wells Branch Coal Co., Moses Fork.
Jefferson Coal Co., Piedmont.
James Grant, Rowlesburg.
Arlington Coal & Coke Co., Elkhorn.
Adaline Coal & Coke Co., Adaline.
Bayard Coal & Coke Co., Bayard.
Cedar Grove Consolidated Coal Co., Cedar Grove.
Sterling Coal & Manufacturing Co., Clifton.
Kanawha Coal & Coke Co., Coalburg.
Preston Lumber & Coal Co., Corinth.
Logan Cannel Coal Co., Huntington.

North Carolina.

Prof. J. A. Holmes, State geologist, gives us the following concerning coal in North Carolina during 1892: In 1891 the Egypt Coal Co., at Egypt Depot, in Chatham county, shipped 11,440 tons of coal. When the company was on the eve of a large and profitable business, a fire occurred in the mine on December 6, 1891, which necessitated stoppage of work and reduced the output for 1892 to about 6500 tons. For the past six months the company has been engaged in introducing a largely increased plant of machinery, including the addition of three pumps under ground and further hoisting capacity. A second shaft, 8x10 feet, is being sunk upon the property, to be used exclusively for ventilating purposes. Adjacent property is also being explored, and a diamond drill has been put down about 400 feet, with results that are entirely satisfactory.

Alabama.

The increase of 140,000 tons in the pig iron production and the natural growth of the domestic and steam coal trade indicate that the output of coal in Alabama in 1892 was close upon 5,125,000 net tons, as compared with 4,759,781 tons for 1891. The output of coal in Alabama during a term of years has been as follows:

PRODUCTION OF COAL IN ALABAMA.
(Tons of 2000 pounds.)

1885	2,492,000
1886	1,800,000
1887	1,950,000
1888	2,900,000
1889	3,572,983
1890	4,090,469
1891	4,759,781
1892	5,125,000

The production of coke for a period of years is given as follows in the report prepared for the United States Geological Survey by Joseph D. Weeks and just published:

PRODUCTION OF COKE IN ALABAMA.
(Tons of 2000 pounds.)

1885	301,180
1886	375,054
1887	325,020
1888	508,511
1889	1,030,510
1890	1,072,942
1891	1,282,496

Our records show the following new concerns as having gone into business in Alabama in 1892:

American Coal Co., Birmingham.
Carbon Hill & Lost Creek Coal Co., Carbon Hill.
Harrison Mining Co., Dogwood.
Harrison Coal Co., Montevallo.
E. M. Tutweiler, Adamsville.
Red Mountain Mining Co., Coal Mines.
Jack & Nicholson, Attalla.
D. A. Hughes, Attalla.

Tennessee.

The coal production of Tennessee during the past eight years has been as follows, the figures prior to 1892 being those given by the United States Geological Survey:

PRODUCTION OF COAL IN TENNESSEE.
(Tons of 2000 pounds.)

1885	1,440,957
1886	1,714,290
1887	1,900,000
1888	1,967,297
1889	1,925,689
1890	2,169,585
1891	2,413,678
1892	2,750,000

The output of coke as given by the United States Geological Survey has been as follows:

PRODUCTION OF COKE IN TENNESSEE.
(Tons of 2000 pounds.)

1885	218,842
1886	368,139
1887	396,979
1888	385,663
1889	359,710
1890	348,728
1891	364,318

The following new mining concerns have started during the past year in Tennessee:

L. N. Farley, Sequachee.
East Tennessee Mining Co., Harriman.
Frozen Head Mine Co., Harriman.
A. L. Spears, Jasper.
Sale Creek Coal & Coke Co., Sale Creek.

Texas.

The production of coal in Texas during the past four years is figured as follows, the output prior to 1892 being as given by the United States Geological Survey:

PRODUCTION OF COAL IN TEXAS.
(Tons of 2000 pounds.)

1889	128,216
1890	184,440
1891	172,100
1892	190,000

There has been a good deal of activity in the organization of new concerns for the development of the coal resources in Texas, the following being among the new firms and companies formed in 1892:

White Ash Coal & Mining Co., Dallas.
Peerless Coal Co., Calvert.
Kniffin Coal, Coke & Mining Co., Dallas.
Rockdale Mining & Manufacturing Co., Rockdale.
Star & Crescent Coal Co., Coleman.
Joel P. Webber, Belcherville.
Southwestern Fuel Co., Fort Wroth.
Minerva Colliery Co,, Laredo.

ASSESSED VALUE OF PROPERTY.

A Net Gain of Over Sixty-Six Millions of Dollars in 1892.

The assessment of taxable values is the most forcible method of demonstrating real progress, but is, however, incomplete testimony as to the actual extent of this progress. There is in every State a large taxable basis that manages to elude the investigations of the tax assessors, and besides one's conception of value, is susceptible to a sudden decline when these same agents put in appearance. These conditions make it impossible to correctly estimate the actual value of a State's wealth and as well insure against any overvaluation. In the South during the year 1892 some notable changes were made in values by the assessments of that year. There are ten out of the fourteen States showing a total increase over the assessment of 1891 of $89,104,823. West Virginia leads the ten with an increase of nearly $20,000,000; Georgia is a close second with $18,783,779. The others are as follows: Tennessee $11,929,538, Kentucky $10,417,606, Virginia $9,564,894, Arkansas $7,250,000, Maryland $5,134,451, North Carolina $5,124,394, South Carolina $608,558 and Texas $326,317. The decrease in the remaining four States, Alabama, Florida, Louisiana and Mississippi, aggregates $22,765,016. The net increase is therefore $66,339,807. The official figures from each State show the following valuations:

ASSESSED VALUATIONS OF SOUTHERN STATES.

States.	1891.	1892.		
Alabama	$275,316,491	$260,926,127	dec.	$14,390,364
Arkansas	180,000,000	187,250,000	inc.	7,250,000
Florida	97,547,005	95,260,000	dec.	2,287,005
Georgia	444,969,755	463,753,534	inc.	18,783,779
Kentucky	542,346,932	552,764,538	inc.	10,417,606
Louisiana	235,769,630	234,915,174	dec.	854,456
Maryland	510,003,077	515,137,528	inc.	5,134,451
Mississippi	167,114,503	161,881,312	dec.	5,233,191
North Carolina	257,052,256	262,176,650	inc.	5,124,394
South Carolina	168,262,669	168,871,227	inc.	608,558
Tennessee	360,570,462	372,500,000	inc.	11,929,538
Texas	856,200,283	856,526,600	inc.	326,317
Virginia	451,602,274	461,167,168	inc.	9,564,894
West Virginia	193,525,038	213,490,324	inc.	19,965,286
Total	$4,740,280,375	$4,806,620,182	inc.	$66,339,807

The citizens of Jacksonville, Fla., are now organizing a stock company with a capital of $500,000 for the purpose of purchasing land and inducing manufacturers of various kinds to locate in this city. Mr. Chas. H. Smith, secretary of the Board of Trade, is leading the movement.

Manufacturers' Record.

PUBLISHED EVERY FRIDAY BY THE
Manufacturers' Record Publishing Co.
MANUFACTURERS' RECORD BUILDING,
Lexington and North Streets,
BALTIMORE.

EDWARD H. SANBORN, Managing Editor.
THOMAS P. GRASTY,
Special Southern Correspondent.

WESTERN OFFICE—535 and 537 The Rookery, Chicago, Ill.
CLARENCE P. DAY, Manager.

NEW YORK OFFICE—126 Liberty Street.
F. W. ROLLINS, Manager.

NEW ENGLAND OFFICE—952 Exchange Building, Boston.
S. I. CARPENTER, Manager.

FOREIGN AGENT—REUTER'S TELEGRAM CO., LIMITED, London.

Reuter's Telegram Co., Limited, of London, are the authorized foreign agents for the MANUFACTURERS' RECORD. Foreign advertisers are referred to the various Reuter offices in England, on the Continent, in the Colonies and other parts of the world for rates of advertising. Contracts should be placed and payments therefor should be made through Reuter's Telegram Co., Limited.

SUBSCRIPTION, - - - - $4.00 a Year.
TO FOREIGN COUNTRIES, - - 26s. 6d. a Year.

The first issue in each month will be mailed for One Dollar per year to subscribers in the United States, or Eight Shillings to foreign countries in the Postal Union.

BALTIMORE, JANUARY 6, 1893.

Notice to Advertisers.

The last forms containing advertisements are closed on Tuesday afternoon. New advertisements or changes should be received not later than Tuesday noon to ensure attention in the issue bearing date of the following Friday. Reading matter should be in our office on Wednesday, although late news can be received early Thursday morning.

THE decrease in cotton receipts has begun to assume alarming proportions, and from present indications there appears to be a possibility merging on to a probability that the crop will be smaller than any since 1884-85. December returns show a falling off of 402,795 bales for the month and 1,717,000 bales for the season to date as compared with last year, the receipts being smaller than for the same month during the past twelve years. The portion of the crop received prior to January 1 during the past eleven years has averaged 73 per cent., the maximum being 78.9 per cent., with a crop of 5,669,021 bales in 1884-85, and the minimum 63.2 with a crop of 6,992,234 in 1882-83. The present receipts to the last of December are 4,729,086 bales, and assuming this to be 73 per cent. of the crop, the total would be 6,005,939 bales. On the basis of its being 63 per cent., as in 1882-3, the total crop would be 6,431,911.

THE Secretary of the Navy on several occasions has followed the policy of distributing the contracts for war ships in such a manner as to develop the shipbuilding plants at various points, so that the entire dependence of the government shall not be upon any one establishment. This policy has been applied, we believe, in the awarding of contracts to the Bath Iron Works, Bath, Me., and the Union Iron Works, San Francisco, even though slightly lower bids were received from other builders. In pursuance of such a policy, which is undoubtedly a wise one, it seems that there ought to be a broader apportionment of the work now under consideration in preference to placing all the work with one concern, as seems to be likely. It would not be unwise to give the construction of at least a single ship to the great establishment that has grown up at Newport News, Va., and it is to be hoped that the efforts now being exerted to that end will be successful. Governor McKinney, of Virginia, has urged the importance of this matter upon Secretary Tracy, and we hope that the Newport News establishment will receive the recognition which it merits.

THE value of exports from Southern ports during the eleven months of 1892, as compared with the same period in 1891, shows that notwithstanding the great decrease in cotton exports this season, there has been but a slight falling off in the total values, and consequently points to a considerable increase in exports of other materials. In 1892 the exports amounted to $9,000,000 less than in the preceding year, but this season's exports of cotton from Southern ports have been 400,000 bales short of the same period last year, representing value of nearly $18,000,000. This makes a difference of $9,000,000, which may be credited to increased exports of breadstuffs and other products. This is shown clearly in returns from New Orleans, which would be most heavily affected by the smaller amount of cotton sent abroad, but actually shows a small gain in total values of all exports. At other large cotton exporting points, Galveston and Savannah, the decrease in values is apparent, more so at the latter port, but considering the heavy reduction in cotton shipments, all ports make an excellent showing.

The British Spinners' Strike.

The strike among cotton operatives in Lancashire has now been in progress for nearly nine weeks, and as yet no reliable indication of a break are to be seen. From some source a statement has been published to the effect that a compromise would be effected between part of the operatives and employers during the week, but thus far nothing of the kind has taken place, and the leaders deny that any proposition has been favorably considered by them. Both sides stubbornly hold their positions—the manufacturers for a reduction on account of the unprofitable condition of the trade, and the operatives for the same pay and shorter hours, by which they hope to decrease production and advance prices. The fallacy of this reasoning is demonstrated by the fact that the mills have been idle nearly a quarter of a year, and the market has not been seriously affected. Further, it is opening a market into which Bombay manufacturers are sending their goods, and herein lies a menace to the American cotton producers. India now consumes nearly all the cotton grown there, and has made little effort to increase its production of the staple, because American cotton controlled the largest consuming market—Great Britain. If the consumption of this market is curtailed and Bombay manufacturers expand into the trade formerly held by it, it plainly means a reduction in consumption of American cotton. Besides this, both Japan and China are steadily growing as consumers of raw cotton, and if the consumption increases in India, the production will increase in greater proportion, and probably keep pace with the needs of these countries. Of course these are only possibilities, but the general trend of events is such as to give them a fair chance of becoming accomplished facts. Until the Nicaragua Canal is completed there is no chance of American cotton controlling the markets of India and the East, and this gives the South all the more earnest reason for wishing godspeed to this enterprise. Already the effects of the Lancashire strike are apparent in our cotton exports to that country, not alone from the lack of purchases by that district, but also from the unsettled feeling given to the entire spinning industry in Great Britain.

Southern Progress in 1892.

Our annual statistical review, which occupies the greater part of our present issue, presents a very interesting and complete compilation of statistics, showing the growth and progress of Southern industries, railroad, financial and commercial interests during the year 1892. The iron industry of the South has shown a great deal of activity notwithstanding the extreme low prices and the depression which has existed in some parts of the country. The output of pig iron in the Southern States, as obtained direct from the producers, amounted to 1,954,295 gross tons in 1892, as compared with 1,708,965 tons in 1891, being an increase of 245,330 tons, or nearly 15 per cent. During 1892 eleven new blast furnaces were completed, and most of them went into operation. Six of these new furnaces were in Virginia, one in North Carolina and four in Tennessee. Three rolling mills were also built during the year—two in Virginia and one in Tennessee.

The coal industry of the South has been in a condition of activity and prosperity throughout the year, and the output increased from 23,636,312 tons in 1891 to 24,612,647 tons in 1892. During 1892 eighty-four new coal-mining concerns went into business in the South.

The railroad mileage of the Southern States was increased in 1892 by the construction of 1053 miles of new railroad. The most notable feature of the year in railroad circles was the number of receiverships created, which embraced twenty-two roads, aggregating 10,243 miles, representing $174,779,657 in capital stock and $131,416,160 in bonds. In the reorganizations begun or completed during the year twenty-four roads were included, representing $139,164,450 of capital stock and $128,007,492 in bonds, and aggregating 6,509 miles of road.

The reduction in the estimated acreage of cotton for the present season as compared with the season of 1891-92 is over 3,300,000 acres, and the best estimates point to a crop of not exceeding 6,500,000 bales for the present season, as compared with 9,035,379 bales during the last season.

The foreign trade of the South for eleven months of 1892 shows a net decrease in exports amounting to $9,183,195. The decrease in the exports of cotton alone is estimated at about $15,000,000, while the increase in the general export trade and in the shipments of cereals from Southern ports was about $6,000,000. During the year 1892 a number of new steamship lines have been started at Southern ports, which promise a large increase in foreign trade in the immediate future.

In the last sixteen months the number of spindles in Southern cotton mills has been increased by 559,188 and the number of looms by 11,819. On January 1, 1893, the cotton mills of the South contained 52,537 looms and 2,375,908 spindles. The consumption of cotton by Southern mills increased from 603,133 bales in 1891 to 682,297 bales in 1892.

The phosphate industry of the South shows shipments of 629,920 tons from Florida and South Carolina in 1892, as compared with 550,272 tons in 1891. The South Carolina shipments decreased from 369,872 tons in 1891 to 346,699 tons in 1892, but the Florida output increased from 180,400 tons in 1891 to 283,221 tons in 1892.

The total number of new industrial establishments organized during 1892 was 2688.

The shipments of lumber from nine leading Southern ports aggregated 1,305,735,714 feet in 1892, compared with 1,075,421,141 feet in 1891.

The assessed valuation of property in the South shows an increase from $4,740,280,375 in 1891 to $4,806,620,182 in 1892.

The Dog Nuisance in the South

A correspondent of the Atlanta *Constitution* points out in a recent issue a difficulty which sheep-raisers in the South are only too familiar with, the depredations of dogs. This gentleman, with a companion, purchased a tract of land near Atlanta over a year ago, and started to raise sheep and spring lambs for the market. Owing to the heavy losses caused by dogs killing their stock, they have been forced to abandon the enterprise, and will return to their former homes in the North.

Georgia and our other Southern States have no laws imposing a tax on dogs, and consequently the country is overrun with them. The negroes especially have a penchant for canines, and always one and often half a dozen miserable curs will form a part of their family group. White farmers of the poorer class are similarly equipped. The dogs range over the country destroying sheep and poultry, chasing and often biting horses and cows, and fighting with and many times killing valuable dogs owned by the better class of people. Their depredations are continual, and a constant menace to every thrifty farmer.

The instance mentioned is only one of many where this same difficulty has caused heavy losses and the abandonment of sheep-raising. On the mountains and hills of the Tennessee valley, which seem peculiarly adapted to the industry by reason of abundance of good grazing land and pure water, as well as a most favorable climate, sheep-raising as a business has been tried a number of times, and in each case the losses occasioned by dogs killing the sheep has been the prime reason for abandoning the enterprise. Cases are known, and not by any means exceptional, where in one night out of a flock of some two hundred sheep twelve or more have been killed and others injured, and this when the nearest house was three miles distant. In Mississippi the same state of affairs exists, and in at least one instance a flock of about

seventy-five sheep and lambs pastured in a well-fenced field during a night was changed to fifty sound sheep, some seventeen injured, some so badly that they died the following day, and nine dead, six lambs and three sheep. The owner of these sheep turned them out on the next night and, with a companion, shot four dogs which came into the field; the owners were found in some negroes living not far distant, and in true Mississippi fashion it was gently intimated to them that if another "sheep-killing" occurred it would be followed by unpleasant consequences. This was quite efficacious so far as these people were concerned, as they promptly disposed of their other dogs, and within a week after the incident no one living within a mile of the sheep farm owned a dog. But this did not by any means stop the trouble; hardly a night passed that some sheep were not killed, so finally the experiment was given up in disgust.

Even in middle Tennessee, one of the finest and best cultivated sections of farm land in the country, there is annoyance and loss from the same cause. Indeed, it is doubtful if any Southern State is free from it, and yet the remedy is simple, merely passing an act imposing a tax on each dog. Were such an act passed it would surprise the legislators to find the small number of dogs which would be claimed by their owners and the very large number which would belong to nobody. These latter are the ones which do harm and which unquestionably, as will be verified by everyone who has tried sheep-raising, have done more to cast it into disfavor than any other cause.

It seems absurd that such an important industry to the South as sheep-raising should be retarded by such cause, and yet this is literally the fact. It appears still more extravagant to believe that efforts to provide the remedy have been obstructed and failed to pass the legislatures into which they have been introduced, and this, too, is fact. In nearly every State efforts have been made to do away with the dog nuisance and at the same time add to the State's revenue, but have not been successful. If damage of equal value was annually done by tramps the governors and legislators would be overrun with letters and deputations demanding some means of preventing it. But it is only the dogs, and those who suffer are only the thrifty farmers, who, unfortunately, are in the minority, and the benefits which might be derived from sheep-raising are only prospective, and voting for a dog tax might be objected to by the negro constituency, so the matter has been, is and will be shelved until the legislators can be compelled to recognize the necessity for it.

HOPEDALE, MASS., December 29.
Editor Manufacturers' Record:

Dear Sir—We consider your paper an excellent advertising medium, and it is at present the only one published South in which we are represented. That fact alone speaks for itself. Yours truly,

(Signed) GEO. DRAPER & SONS.

THE C. A. Edgarton Manufacturing Co., of Shirley, Mass., manufacturers of suspenders, a Massachusetts corporation with a capital of $50,000, employing from 150 to 175 hands, is looking for a place to relocate its business, its principal desire being to locate in a town or city where female help is plenty.

Cotton Manufacturing in the South.

BOSTON, MASS., January 2.
Editor Manufacturers' Record:

I have read with much interest the communication of Mr. Furlow Holt that appeared in your issue of December 23, in partial reference to my article that was published in your December 2 number on cotton manufacturing in the South.

Mr. Holt writes as one familiar with his subject, and for that reason it is a pleasure to take cognizance of the semi-criticism of two or three points which he selected from my remarks. Mr. Holt and I, probably, would agree upon the advantages that the South possesses for the economical manufacture of cotton, except, possibly, upon the subject of the incapacitating effect of the climate on the physical energies of mill operatives. The treatment of this one subject, however, would require more time than I can give to it now, and more space in this journal than I care to consume. But I have in my possession testimony upon testimony from Southern manufacturers and mill engineers who are conversant with factory matters in the South, of the enervating effect of Southern climate on the physical energies of the people not only in the southern, but in the northern and more hilly sections of that part of our country. It seems to be admitted that the Northern factory operative can accomplish a tenth more work in the same length of time than the Southern operative. My own observations during a residence of several seasons in the South seem to confirm the truthfulness of these statements. I do not wish to be understood, however, as asserting that climatic influences are of sufficient potency to act so inimically upon the healthy growth of cotton manufacturing in the South as to be in any sense destructive.

Facts past and present are enough to disprove any statement of this kind. The debilitating effect of the climate in the South, nevertheless, is a disadvantage enough in itself to eliminate any and all advantages that the South may have over the North in cotton manufacturing. I do not, therefore, concur in Mr. Holt's assertion that "it is only a question of time when they (the Northern manufacturers) will be forced to come South or go out of business."

Mr. Holt alludes to my remarks about the greater number of hands to 1000 spindles in the South than in the North and says:

> There are several reasons for this. One is, there are more children employed in the South than in the North, and the mills also make coarser threads than they do in the North. Also the labor in the South is new at the business and inexperienced, and in many cases management and executive ability are lacking, as well as practical experience. The number of operatives per 1000 spindles in the South has decreased to some extent, and is still on the decrease, and it will continue to be so as we have more experience, better and more improved machinery, make finer threads and have more capital.

I admit all this. I simply referred to a fact now existing which will undoubtedly right itself in time. I know very well that more hands are required per thousand spindles in a coarse than in a fine mill, even when the machinery is especially adapted to the work required of it. For instance, a girl in the carding department of a New England mill can run two speeders on 3.50, 4 or 4.50 hank roving; but put these same speeders on 2 or 2½ hank roving, and the girl would have more than she could do. Again, a spinner can attend to from 1000 to 1500 spindles on number 30 to 45 yarn, while the same hand could not attend to more than 600 or 800 spindles on number 12 or 20 yarn, or to more than 400 or 500 spindles on number 8 yarn, and it would require as many again doffers for number 8 yarn as it would for number 20 yarn. I am supposing that these changes were made on the same machinery, which in practical manufacturing would not be the case if the most economical results were expected. Better results, of course, could be accomplished than here stated if the coarse yarns were made in a mill equipped especially for their manufacture and the fine yarns in a mill equipped for their manufacture. I am having very carefully collected data on this particular subject made for me by two coarse-yarn mills and two fine-yarn mills, which I may make use of upon some opportune occasion, in order to explain or get a reason for the statistical difference between the number of hands per thousand spindles employed in Northern and Southern mills.

A partial explanation of this difference is to be found in the fact that a very much larger number of mule spindles are run in the Northern than in the Southern mills. Number and twist being the same, at least 15 per cent. more yarn can be spun on a ring frame than on a mule, per thousand spindles. This condition existing, more hands would be required per thousand spindles in Southern mills, where nearly all are frame spindles, than in Northern mills, where a large proportion of the spindles are mule. There are many "ifs" and "ands" to be considered in comparing cotton manufacturing in the South with that in the North. Neither section has all the advantages exclusively to itself.

HENRY G. KITTREDGE.

Peaches in Georgia.

[S. F. Garlington in the Charleston *News and Courier*.]

The home of the peach is Georgia. Imagine what a sight, in summer, to behold hundreds of acres planted in peach trees, all laden with the very finest varieties of this luscious fruit. Perhaps many of your readers would be surprised with the rapidity with which the cultivation of this fruit is being extended in Georgia, the value of this crop to the State, and the enormous profits derived therefrom.

The largest peach orchard in the world is that of the Ohio Fruit Land Co., situated near Fort Valley, Ga., and in about the same latitude as Charleston, S. C. This orchard at present contains 150,000 trees, and is being enlarged every year. Fort Valley ships more peaches, perhaps, than any other point. The largest orchards around Fort Valley are the following: Ohio Fruit Land Co., 150,000 trees; Hale Georgia Orchard Co., 125,000 trees; Albaugh Georgia Fruit Co., 110,000 trees; the J. H. Hall Co., 100,000 trees; Maioma Valley Co., 70,000 trees; the Gray-Arrick Fruit Co., 60,000 trees; N. Deitzen & Bro., 75,000 trees; Deitzen & Shumway, 50,000 trees; the Troy Fruit Co., 40,000 trees; Fort Valley Land Fruit Co., 25,000 trees; Major Geo. T. Jones, 10,000 trees; Gurr & Brewster, 5000 trees; F. V. Fagan, J. O. Lilley Co., Hearthy & James, Hiley Bros., W. E. Warren, B. W. Sanford, Sterling Neil, H. A. Brown and J. G. Vischer, each containing between 3000 to 6000 trees. There is around Fort Valley not less than 1,250,000 young trees. There is also in the same county as Fort Valley the famous Rumph orchard, which until last year was the largest orchard in the world, containing 125,000 trees.

Most of the trees around Fort Valley are yet very young, yet the net profit to fruit-growers around this place this season was something over $500,000. There will come to them from the sale of the trees $200,000. The Hale Georgia Orchard Co. sold $120,000 worth of trees this fall, and there are several other nurseries there.

The varieties usually grown in Georgia, given in the order of ripening, are: Alexandria, Tillotson, Early River, St. John, Early Crawford, Amelia, Stump the World, General Lee, Chinese Free, Belle of Georgia, Elberta and Late Crawford. There are some others grown here, and all do well, except perhaps the Alexander, which some are discarding. The main shipping points are Fort Valley, Marshallville, Orchard Hill, Griffin, Forsyth, Barnesville, Reynolds, Perry, Powersville, Loraine, Tennille, Butler, The Rock, Byron, Vineyard and Morehand.

It would, perhaps, be interesting to the readers of the *News and Courier* to know the profits derived from this fruit crop. Mr. W. E. Warren, of Houston county, whose land is about the average, realized $300 per acre from his entire crop. I have before me an account of a sale made by Snow & Co. in Boston of 480 cases of these peaches sold at auction in the month of August which brought $1,721.57 gross. This being in August, when the Delaware and New Jersey crops were on the market and also sold at auction, gives some idea of the demand for them. The usual price per crate of three pecks, however, is from $3.00 to $6.00. The cost to market is as follows: For crates in quantities, twenty cents; gathering, packing and loading cars, twenty cents; freight and refrigeration, fifty-eight cents; commission, ten cents—total, $1.08 per crate. Taking the lowest price, $3.00, this will net $1.92 per crate. A tree will yield on an average about two and a-half three-peck crates.

Suppose we get some idea of what the profit of one of these farms will be. Take the Hale Georgia Orchard Co., owned by Messrs. J. H. & George H. Hale, of South Glastonbury, Conn. By the time these trees begin bearing they will have expended $125,000. Their average crop will net them over $500,000, which will almost thrice pay for their lands, etc. Suppose we figure on the profit per acre as compared with cotton. An acre in peaches will yield $300 net. Suppose that we have a crop one year in seven—but more strictly speaking one in three—that will give a profit of almost $43 per acre. Suppose cotton to be ten cents per pound, and that an acre will produce a half a bale or 200 pounds, this will give $20 per acre, saying nothing of the cost of fertilizers, labor, etc. Does it not seem that the peach crop in South Carolina would pay better than cotton?

The canning industry is also receiving attention here, as well as the making of brandy from the inferior fruit.

The majority of these orchards, and especially the largest ones, are owned by Northern capitalists. There are, however, many Georgians and many who were formerly South Carolinians, among them Judge A. S. Giles, formerly of Abbeville, S. C.; Capt. Wesley Houser, Col. David H. Houser, Col. Frederick, the Posteles, and Frank Houser, of Orangeburg.

DURING February the Chattanooga Company, owners of the property formerly held by the Chattanooga Land, Coal, Iron & Railway Co., will put their electric railway in operation, giving connection between their property and the city. This is, it is understood, preparatory to further developments which will shortly be undertaken.

THE Newport News, Hampton & Old Point Development Co., of Virginia, owning extensive properties in the places named, recently declared a cash dividend of 7½ per cent. on its capital stock. The growth in these places has been quite rapid, and property owned by other development companies has greatly appreciated in value.

A BRICK famine is staring Chicago contractors in the face. This is due partly to the great demand, but the wet weather last spring prevented the yards from turning out the usual quantity; then again, the supply of brick which is generally received from Milwaukee, has been cut off by the vast amount of rebuilding there since the fire. The average price of brick is about $5.50 per thousand, but now they are scarce at $10.00, and everyone expects them to go to $15.00 before spring. The outputs of all yards within a hundred miles of the city have been bought up by the contractors.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on page 471.]

The News of Wall Street.

[From our own Correspondent.]

NEW YORK, January 3.

It has been a very dull and quiet week in the street, due to the holiday spirit on 'change, the absence of leading people from the business centre and the annual settling up of relations and taking account of the year's business and profits. There was a decided slump in Northern Pacific to mark the week with a feature, and the rise in Manhattan L shares continued, the one as independent of the market as the other, each being moved by its own conditions and not affecting the general list. A better feeling in coal shares was also brought about, one cause being that earnings show that the anthracite roads are making a good deal of money; the other being that the Pennsylvania and its new and powerful rival, the combine, have come to terms on joint traffic rates.

* * *

A feature that stands out among the railroad facts of the year is that railroads have earned in gross as much, or more than ever, while the proportion of expenses has risen abnormally, making the net result less than it ought to be. Now it is a certainty that the margin of profit in railway business has been steadily decreasing right along, owing to competition and to increased production, and consequently lower price for the merchandise carried, with other and less general causes. The competition effects have, however, been the most alarming, ever since the passage of an interstate commerce bill with an anti-pooling clause.

It will be a grave matter not only to the railroads themselves, but to those whose business depends upon them for transportation, if this tendency shall develop until there is no longer a fair profit in the carriage of crops and mining and manufacturing products. If the railroads are losing money, all hands suffer. If they lose it because they are obliged to do a great amount of business to make only operating expenses, trouble is sure to follow to their customers and dependents, the whole commercial body.

Pooling should remedy to a great extent this condition of affairs. There is so much business to be done and so many roads to do it. Whether we apply it to the trunk lines or the Western and Southwestern systems, or to the two or three roads feeding Poketown and Beanville, the effect is alike. It is better for all concerned that those roads get their traffic according to an equitable distribution at living rates than that the weaker ones should be compelled to hustle for it by making lower rates and demoralizing not only their own business, but that of their rivals. If the Congress shall not see its way to grant the legitimate demand of the railroads after years of experience under the interstate law have proven the evil effect of the granger idea, the railroads can operate under a pooling plan which no court or investigating committee can break down, as the laws and their interpretation now stand.

Combination with the idea to control! We have been afflicted with many newspaper hysterics on this subject for a long time, but there is growing to be less and less of it, and senseless clamor will soon cease as the public realizes that great enterprises have their support on public patronage and that both are interdependent.

* * *

The prospects for the new year form the general topic of Wall street talk this week. Business, it is agreed, is good and on a solid and conservative basis. The fact that there were fewer failures than for years had a tremendous effect when it was emphasized at the end of the year. The very fact that the railroads are doing larger business had also a noticeable recognition. That 1893 should be a remarkable year for prosperity is generally admitted. Apprehension of a cholera panic to spoil our World's Fair business is present, but there seems to be no great cause for alarm. Our health officials have been strengthening every weak point ever since the plague was stamped out at the gateway of America, and whether the national or State quarantine idea shall prevail, vigilance and efficiency at every point is expected and promised. Cholera, to us a greater danger than it really is, is more lightly regarded in Europe, which traffics more with cholera-infected countries in a year than we do in a decade. The year starts in with business well in hand, and with the gold-at-a-premium scare well worked out, most people finding it a cause for congratulation now that we have been able to stand an addition of silver to our currency, until over a billion dollars of the white metal, or the paper calling for it, is well maintained by our public credit and the people's absorption of it. At the outset of '93 we are able to congratulate ourselves upon being in better shape than all Europe. Even England has not yet gotten back where she was before the Argentine crisis, and every country abroad is distinctly poorer than at the beginning of 1892, except America. With the golden flood of sovereigns and reichsmarks and francs and lire coming into America, with the World's Fair alone we should be happy. Merchants are predicting a larger foreign trade than ever, independent of that.

* * *

An important market feature of the recent few weeks of Wall street disturbance and uneasiness has just made itself prominent. At every decline there have come into the street a class of shrewd investors called "panic birds." They come when stocks are down and take them out of the street. I saw a man in a banker's office last week who hadn't been about in months. He took 1000 shares of a particular stock to his tin box in a safe deposit vault. It shows a profit of over $5000 now, but he has bought it to keep, not to sell. The "outside public" (street parlance), meaning the people who put up margins, are out in larger force than I have observed for a year. Their attention is less centred on the industrials now, and railway shares are looking up from their neglected state.

* * *

President Hood, of the Western Maryland Railroad, is reported as saying: "Our greatly improved earnings are largely due to the operations of the Potomac Valley Railroad; that is, the increasing net earnings are mainly derived from the heavy and rapidly increasing through business now being interchanged between the Baltimore & Ohio, Norfolk & Western and Philadelphia & Reading roads through the medium of this company's lines. The gross earnings for October, 1892, show an increase of $30,714.99 over October, 1891. The gross earnings for October and November, 1892, were $193,106.33, operating expenses $132,089.61, net earnings $61,016.72, as compared with gross earnings $147,099.23, operating expenses $112,369.38 and net earnings $34,729.84 for October and November, 1891, showing an increase for the two months of $46,007.10 in gross earnings, $19,720.23 in operating expenses and $26,286.87 in net earnings, to be increased by the actual figures for November when received. Of course this extraordinary showing is much in excess of what can be depended upon during the lighter months."

THE 651-foot railroad bridge across the Tennessee river at Knoxville, Tenn., under construction for the Marietta & North Georgia, will soon be finished.

Railroad Earnings and Expenses in 1891-92.

The statistician of the interstate commerce commission has prepared a preliminary report on income and expenditures of railways for the year ended June 30, 1892. The gross earnings of 128,349.99 miles of railway are shown to have been $951,025,159, from which the gross earnings of the entire railway system are estimated to have been $1,222,711,698. This is an increase of $125,950,303 over the earnings of the previous year, or an increase of $608 per mile of line. The operating expenses for the year were $814,752,082, being an increase of $82,834,189, which leaves an increase in net earnings of $45,116,114. The actual increase in revenue from passenger service was $31,500,038, or $247 per mile, as against an increase in the revenue from freight service of $91,506,671, or $349 per mile of line.

The largest increase in gross earnings per mile of line is made by the lines connecting the wheat-growing districts with the seaboard and the lines in the Southern States bordering on the Gulf of Mexico. These railways, however, show increases in operating expenses nearly equal to the gain in gross revenue, and but little advantage has been obtained by the improvement in gross earnings.

The report shows that the aggregate gross earnings of sixty-two roads, each of which enjoys an income in excess of $3,000,000, is $794,478,631, being an average income of $12,814,171. The average gross revenue per mile of line for all roads is $8840. A classification of the sixty-two roads in question shows that eight receive each an income in excess of $20,000 per mile of line; for ten the income per mile of line is between $13,000 and $20,000; for thirteen the income per mile of line is between $7443 and $13,000, while the income for each of the remainder is less than $7443 per mile of line.

The figures given by the report relative to the passenger and freight traffic covering those roads whose gross earnings exceed $3,000,000 evidences a healthy expansion of trade during the past two years in some parts of the country. In other parts the loss of traffic in 1891 is more than made up by the increased business of 1892.

In the Southern Gulf States, Tennessee and Kentucky the ton miles per mile of line were in 1890 394,096; in 1891, 405,905; in 1892, 499,926, showing a permanent gain. On the other hand, in the territory of the trunk lines east of Buffalo and Pittsburg the ton miles per mile of line were in 1890 1,900,295; in 1891, 1,763,330, and in 1892, 1,935,404. The poor relative showing of 1891 is in part accounted for by new lines built in the State of Pennsylvania, but the figures indicate a decided fluctuation in business.

Rolling Stock as an Advertising Medium.

The business men of Pensacola, Fla., are raising a fund of $100,000 to secure a new railroad—the Pensacola, Alabama & Tennessee. The canvass for subscriptions developed the form of a most unique offer, an appreciation of the art of advertising, that is decidedly refreshing. Were it not that the proposition appears to be in good faith, it would prove a most acceptable contribution to midwinter humor. It is as follows:

A certain firm will donate the sum of $10,000 towards the enterprise, to be paid in cash upon the completion of the railroad from Pensacola to Memphis, upon the condition that all the employes of the said railroad be required to purchase their uniforms and overalls from the said firm; that the latter's advertisement be painted upon all the rolling stock of the railroad company in a manner to be directed by themselves or their agents; also that the general officers, stockholders and bondholders of the said railroad company, and all employes of said company who are not required to wear uniforms, shall have their clothing made to order and purchase all their furnishing goods, etc., from the said firm.

Progress of the Coal River Railroad.

Readers of the MANUFACTURERS' RECORD will remember an article, printed some time ago, describing the manner in which a number of land owners in West Virginia proposed to build a railroad something over fifty miles in length through their lands along Coal river. The plan was for each land owner to give a certain number of acres to a construction company for the construction of the road. This plan was considered rather visionary at the time, but developments show that it has worked out very nicely.

On Saturday, December 31, a meeting of land-owners along the proposed line of the road was held at Charleston, W. Va., for the purpose of considering a proposition made by Col. J. S. Casement, of Painesville, Ohio. General Casement's proposition is that he will build the line for a distance of fifty miles in consideration of 500 acres of land for each mile of road, or 25,000 acres for the entire line. He further stipulates that he shall have from now until the first of next July to examine the land he is to take as his share, and if found to be as represented, he will at once begin work. This proposition was acceptable to the promoters of the road and the agreement was made with the stipulation that they should have the privilege of taking any more acceptable offer made between now and the 1st of July, 1893. General Casement agrees, if his proposition is accepted, to have at least twenty miles of the road completed by the 1st of July, 1894.

Among the land-owners present at the conference were: Dr. W. R. Pryor, of New York, son of Judge Roger A. Pryor, whose representative he is; Dr. W. D. Byrne and his son, John D. Byrne, also of New York; John McClintic, of Lexington, Ky.; Major A. St. Clair, of Graham, Va.; Governor A. B. Fleming, of West Virginia; Governor-elect William A. MacCorkle, of West Virginia; and Major J. C. Alderson and Major Thomas L. Broun, of Charleston, W. Va.

Fifteen thousand acres of land have already been subscribed to the project and a committee was appointed at the meeting to secure the remaining ten thousand. The route of the road is from the mouth of Coal river at St. Albans, to Boone Courthouse, on Little Coal river, and to Peytonia on Big Coal river. From St. Albans to the forks of Coal is fourteen miles; from the forks to Peytonia is, approximately, the same distance, and from the forks to Boone Courthouse is twenty-two miles.

The road will open up what is known as the Coal river basin, which contains 1000 square miles of as fine coal and timber land as is to be found in the United States. There is a vein of cannel coal from three to four feet in thickness underlying almost the entire region. Beside this, there are three or four other workable seams, among which is the celebrated Black Band vein, which commands a better price than almost any other bituminous coal on the market. At some places along the line the vein reaches a thickness of thirteen feet.

The projectors of the road mean to make it entirely independent, both in construction and operation, of all other railways, though it will connect with the Chesapeake & Ohio and Kanawha & Michigan at St. Albans.

Railroad Notes.

THE Richmond Terminal again came into notice by the recent action of Judge Lacombe, of the United States Circuit Court at New York, in appointing Frederick W. Huidekoper, of Washington, and

Robert Foster, of Baltimore, as receivers for that company in the State of New York. They were previously appointed by the Virginia court.

THE following recent changes have been made among the officials of the Yazoo & Mississippi Valley branch of the Illinois Central: Mr. J. F. Wallace has been appointed chief engineer, with headquarters at Chicago. Mr. A. W. Sullivan has received the appointment of general superintendent of the Yazoo & Mississippi Valley at Chicago. The office of superintendent of roadway, up to the present time held by Dr. J. B. T. Hillhouse, has been abolished so far as the Yazoo & Mississippi Valley road is concerned. Mr. A. Philbrick has been appointed roadmaster of the Louisiana division of the Illinois Central and branches, with headquarters at New Orleans, vice T. J. Ansley, resigned. These appointments were effective January 1.

THE Jacksonville & Atlantic Railroad, which was lately purchased by M. W. Drew, will be operated by a newly-formed corporation, the Jacksonville & Atlantic Railway Co. The road is seventeen miles long, extending from Jacksonville, Fla., to Pablo Beach. The new company is officered as follows: M. W. Drew, president; J. W. Archibald, vice-president; B. P. Hazeltine, treasurer, and W. A. Macduff, secretary.

THE well-known policy of the Chesapeake & Ohio management of keeping the efficiency of that system up to the top notch is illustrated in the steady improvement of facilities to satisfactorily handle the continued growth of traffic. The company has now in operation about seventy miles of double track, and it is its determined purpose to continue increasing this at the rate of about forty or fifty miles a year until its road between Huntington, W. Va., and Clifton Forge, Va., is completely double-tracked.

IT is calculated that over $50,000,000 have been appropriated by the various railroads entering Chicago to be expended for improvements in terminals, betterments and new equipments in anticipation of the heavy volume of business incident to the World's Fair to be held this year.

THE Baltimore & Ohio has practically secured a long-wanted connection into central Pennsylvania by the arrangement for broad-gaging the Baltimore & Lehigh between Baltimore and York, Pa., a distance of seventy-five miles, recently made. The Baltimore & Lehigh has engaged to use the B. & O.'s belt line and to interchange traffic with that company.

AN order for the appointment of a receiver for the Chattanooga Construction Co., of West Virginia, is contained in a recent decision by Judge Key, of Chattanooga, Tenn. The receiver is to take charge of the company's assets and apply them to the payment of its debts. This company was the builder of the Chattanooga Southern Railroad, which is also in the hands of a receiver.

THE Charlotte Harbor division of the Florida Southern Railroad, extending from Bartow to Punta Gorda, is now of standard gage. That portion between Arcadia and Punta Gorda was changed from narrow to standard gage on December 17, 1892.

A TALKED-OF move on the part of the Atlantic Coast Line is the severance of its connection with the Plant system for Florida business and an arrangement for such service with the Florida Central & Peninsular on the completion of the latter's extension to a connection with its South Bound branch.

THE sale of the Atlanta & Florida Railroad, which is advertised for a date in February under foreclosure proceedings by the Central Trust Co., will be resisted by the receivers' attorneys. It is claimed that the United States court has no right to order the sale of the property while it is in the hands of the State court.

THE Louisville & Nashville dividend is to be declared soon. It is believed that the company is in a position to pay an increased dividend; however, 2 per cent. cash is assured.

A New Upper Monongahela Mine.

The Virginia & Pittsburg Coal Co. has opened and equipped one of the most complete mines in the Marion county, W. Va., region, at a point about two and a-half miles from Fairmont. The company owns a tract of 1102 acres on the west side of Tygart's Valley river, underlaid with the Pittsburg seam. The coal is about six and a-half feet thick, and is a solid body underlying the entire tract. The main opening has been driven in over 200 feet, and rooms are opened off from this entry on both sides at close intervals. The coal is covered by a splendid stone roof that is easily supported, and from the very mouth of the pit the coal shows a splendid peacock ornament on the bright black. The company will open one or two more entries and will connect them all when the workings have progressed far enough to make it possible. The mine is located on the opposite side of the river from the railroad, and the question of how to reach the shipping facilities without the expense of building a bridge was a question that bothered the proprietors for quite a while and hindered the beginning of operations for a time. It was finally decided to use a cable tramway system and such a plant is now in use. The distance is 590 feet, and 1000 pounds of coal is carried at a load and dumped automatically into the screening chutes over the railway sidings. Foundations have been begun for a string of fifty coke ovens in connection with the plant.

Leases in the New River Coal Field.

Since the publication in the MANUFACTURERS' RECORD last week of the article entitled "Development of the New River Coal Field," action has been taken which makes this field one of the most interesting to coal men and those who watch Southern development. At the time that article was written the sale had barely been consummated whereby the Vanderbilt interests became possessors of several large bodies of coal land in what is known as the New river (W. Va.) region. Since then negotiations have been set on foot whereby no fewer than thirty concerns will lease blocks of coal land from the new purchasers and begin the development of the coal and coke industry along the Chesapeake & Ohio Railroad.

Major J. W. Gordon, secretary of the McClure Coal & Coke Co., of Pittsburg, which company is largely interested in the field, and Mr. Thomas McKell, the former owner of the land, with their attorneys, have been in Charleston, W. Va., for a week perfecting the titles and boundaries of the land preparatory to making the final transfer. Already arrangements have been made for leasing the land in suitable sized tracts to those who are to develop it. The leases will be made through Mr. Thomas Dannelly, president of the McClure Coal & Coke Co. Among those who have either applied for leases or who are making examinations preparatory to doing so, are Stonington McDonald, manager of the Great Kanawha Coal Co., of Mount Carbon; the Belmont Coal Co., of Crown Hill; J. A. McGuffen, of Sewell, manager of the Longdale Iron Co.; G. H. Caperton, manager of the Fire Creek Coal & Coke Co.; Patterson Bros. & Co., of Piketon, Ohio; M. M. Warren Cott, of Pittsburg; A. Rinehart, of Covington, Va., and several others, who are represented by attorneys. It is understood that the lease rate will be ten cents a ton for the coal mined, the land owners to have access to the mines to see that coal is removed in the most advantageous manner. The coal veins under the McKell land average six feet throughout, which is nearly two feet greater than the average thickness of the seams now worked along the main line of the Chesapeake & Ohio. The rate paid for mining at present is fifty cents a ton, but it is thought that miners can earn as much money at forty cents in the thick vein and that such a rate can be established.

About the only matter for further consideration before leases are closed and the actual work of opening the mines is begun is the rate of freight that will be charged by the Chesapeake & Ohio road from the New river region to the various markets. Representatives of those who contemplate leasing the land and of the Chesapeake & Ohio Railroad held a meeting in Cincinnati on last Saturday to discuss the question. The coal operators presented an estimate of the cost of getting the coal loaded on the cars at the tipple, and the probable price they could secure for the product delivered. The representatives of the railroad company are said to have shown an inclination to act with absolute fairness, and no difficulty is contemplated on this score. In the meantime the Chesapeake & Ohio road is pushing its double-tracking in West Virginia, and is making every effort to get its Western and Northwestern outlets ready at the earliest day.

It has come to the surface since these negotiations were begun that the mere matter of coke-making is not the only one that has moved coal operators to enter the New river field. It is said that this coal, when burned under proper conditions, is almost smokeless, and that it brings quite a little premium in several cities on that account.

Coal and Coke Notes.

THE Chesapeake & Ohio Canal, which is now closed for the winter, has had a most successful season during the past year. Nearly 200 boats were kept in operation and over 270,000 tons of coal shipped. The coming year is expected to do even better than this, as a larger number of boats will be put on.

THE Western Coal & Mining Co., of St. Louis, Mo., has purchased coal and mining rights in about 4000 acres of land in Franklin county, Ark., and the sinking of a large shaft is now in progress.

THE exports of coal from the port of Norfolk, Va., from January 1, 1892, to December 30, 1892, as cleared by Wm. Lamb & Co., agents at Lambert's Point, is as follows: Foreign exports 2890 tons and coastwise 33,969 tons; total for week ending December 29, 36,859 tons. The total amount for the year ending December 29 was 1,640,199 tons.

MESSRS. A. A. BERGER, of Baltimore, and R. G. Banks, of Florence, Ala., have purchased valuable coal lands in Jackson county, Ala., on the Tennessee river, and will open mines.

Savannah's Sea Suburbs.

By Col. I. W. Avery.

The lovely sea islands and coast resorts of the sunny South, with their comfortable enchantments, are winning the warm favor of the Northern luxury-loving millionaires, and none of these attractions surpass the ocean suburbs that environ and enrich Savannah.

The wealthy weather epicures of the cold climates of our comprehensive Union are beginning to find it a welcome change from the frigid winters of their snowy homes to the mild air and varied charms of our delightful Georgia coast islands, that with a soft temperature afford to the sportsmen the pleasures of the hunter and the fisherman.

These enchanting sea islands were in the baronial days of slavery the property and homes of gentlemen of wealth and taste, who lived in cultured ease in their elegant dwellings, set off by ornate grounds, and dispensed royal hospitality to hosts of congenial guests.

The war desolated rudely these princely places and left them wrecked sites of olden splendor, rich in the vestiges of former comfort and magnificence. They have fallen in the stern poverty of the times into a forlorn forgetfulness and a sad decadence, shorn of their glory and depreciated in value.

But the renaissance has begun. Attracted by the myriad native beauties of these favored spots, the luxurious capitalists of the North have bought and converted them into fashionable resorts, with all the handsome paraphernalia of brilliant improvements, beautiful gardens, smooth drives and commodious modern clubhouses, with every convenience for comfort and pleasure. And these places are equally pleasant in summer or winter, the sweet temperature prevailing pretty fairly the year round.

Of Savannah's sea suburbs Tybee is different from all the others. It is a modern resort—a since-the-war product—the creation of recent enterprise and later-day thought. It has no old social repute. It made historic fame in both the revolution and the late civil war, and it has been developed in the past twenty years into the chief South Atlantic sea watering place, and linked by rail to the Forest City, to which its value will constantly grow.

Wilmington and Warsaw islands are both very popular resorts and being rapidly improved into most attractive and well-equipped suburban spots, the first by the Wilmington Island & Thunderbolt Ferry Co., and the latter by Mr. J. H. Parsons, of New York. Ossabaw island has had much money spent upon it, among others by the famous and solid bookmakers of the American continent, the New York Harpers. Another Ossabaw developer is the Connecticut Waterbury, of the known New England town of that name.

Another private island suburb of Savannah is St. Catherine's island, the possession of that accomplished gentleman and successful business man, Mr. J. Rauers, the German consul at Savannah, who has made the island one of the charming retreats of the South Atlantic coast, with elegant dwellings exquisitely furnished, commodious stables of fine horses, broad pastures of choice cattle, rare fishing streams, wide hummocks full of game for the sportsmen, a deep and smooth sea beach and a community of 100 employes in their tasteful cottages.

What words can tell the glory of the far-famed Bonaventure, the most impressive and beautiful "city of the dead" in the world, whose funeral avenues of antique, moss-draped massive oaks—poetic emblems of nature's ceaseless, sorrowful weeping—baffle description. The place is a typical cemetery, august and solemn. Its very appearance suggests mourning, and its atmosphere incarnates bereavement. Bonaventure is a sepulchral wonder of nature's own creation.

Thunderbolt, Isle of Hope, Montgomery, Beaulieu, Bethesda (home of orphans), Greenwich Park, White Bluff and other picturesque and captivating suburbs, reached by electric railways, each with its own uses, merits and beauties, can be named in Savannah's surpassing environment of historic and exquisite outlying provincial tributaries, Edens of salt water and fresh ocean breeze, of noble forest and glistening stretches of white, smooth seashore, spots of scenic lovliness and exhilarating enchantment.

It is a practical testimony to the charms of these rare environments that direct trade is bringing the English lords and gentlemen to hunt a new Italy for their yachts and elegant leisure, which they have found here.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department, on page 470.]

Southern Lumber Notes.

THE large schooner Charles Davenport, registering 1,235 tons, was receiving railroad ties at Brunswick, Ga., on December 29. She was expected to take a cargo of 32,000.

F. E. TOWNS, of Tallahassee, Fla., a prominent lumber exporter from Brunswick, Ga., will ship during the year 1893 at least 30,000,000 feet of lumber from that port.

THE Beaumont Lumber Co. is putting in a new slab conveyor, which, when completed, will be the most substantial apparatus of the kind in the South.

THE Hooks Lumber Co., of Hook's Station, Texas, on the S. E. T. road, are preparing to put in a steam train for hauling logs to their mill. Several cars of rails have been received by the company.

THE Montreal Manufacturing Co., a new concern just organized, will erect an extensive furniture factory at Montreal, a suburb of Atlanta. The plant will consist of a building three stories high, 175x55 feet in size, with an annex two stories high and 150x50 feet in size. The officers of the company have been chosen, as follows: Clement A. Evans, president; Thomas Kirke, secretary, and J. H. Porter, treasurer.

THE new lumber mill of the Tyler Car & Lumber Co. at Michilli, Texas, has been started up. It cuts about 125,000 feet of lumber daily.

THE saw mill at Pelican, La., will be considerably improved by Jas. E. Bailey, of Atlanta, Texas, who has purchased it. The mill will cut 20,000 feet daily.

MESSRS. W. L. RANKIN & BRO. will build a planing plant near Fayetteville, N. C., and has already purchased outfit of machinery.

MESSRS. CHAPMAN & WILSON are remodeling their planing mill at Wheeling, W. Va., and will put in an entire new outfit of machinery to take the old equipment's place.

THE Clarendon Lumber Co., of Clarendon, Ark., was incorporated on December 30 last. The capital stock is placed at $50,000. The officers are F. S. Ellis, president and treasurer; P. J. Wilden, vice-president, and George Spencer, secretary.

THE Norwood & Butterfield Co., at Norfield, Miss., is improving its plant. New flooring machines will soon be purchased and added.

IT is said that Messrs. Nicola Bros., of Pittsburg, Pa., have purchased an extensive tract of timber land in Roane county, W. Va., and intend erecting a fine sawing plant at Spencer.

THE new bent-wood works at Anniston, Ala., have been completed and operations have commenced.

MESSRS. KRANSON & CASPARI contemplate adding a new shingle mill to their lumber plant at Natchez, Miss.

MESSRS. ENOCH BROS., of Magnolia, Miss., intend to make some mill improvements soon, including remodeling and the addition of a gang saw.

WORK is progressing rapidly on B. E. Brister & Co.'s new lumber mills at Bogue Chitto, Miss., and will be completed in a couple of months.

THE new ten-block shingle machine lately put in by the Bemis Lumber Co., of West Melville, La., is giving fine satisfaction.

THE Sulphur (Texas) Lumber Co. is adding a fine new dry-kiln to its plant.

THE E. P. Allis Co., of Milwaukee, Wis., will supply a complete band saw mill of 40,000 feet capacity daily for the E. E. Jackson Lumber Co. at Plantersville, Ala.

H. C. STRINGFELLOW'S fine mill at Shreveport, La., was destroyed by fire on the 18th ultimo, causing a loss of $60,000. Doubtless he will soon rebuild.

D. B. BARBOUR, J. W. Minnick and A. J. Miller have purchased Power & Co.'s planing mill in Roanoke, Va., and will improve and operate it. The purchase price was $7500.

New York.

OFFICE OF MANUFACTURERS' RECORD,
No. 126 Liberty Street.
NEW YORK, January 3.

The extreme cold weather, together with the holiday season, has had a tendency to somewhat hinder trade, which is not very brisk, anyway. There is nothing of startling importance to communicate to the lumber world.

The conditions concerning yellow pine seem to be incapable of changing. Its friends here, that is to say, its real friends, look to the organizations which have recently taken place in the South with much favor, and really and truly hope that, through this, the conditions may be so much improved that the manufacturers will be able to get, at least, a living out of it. Prices have not advanced in this market, nor is any advance anticipated in the near future.

Building orders, 12 in. and under	$19 50@ 20 00
" " 14 in. and up	20 00@ 21 00
Yard orders, random	17 00@ 18 00
Ship stock, 40 ft. average	22 00@ 23 00
Heart face siding, 1 and 1¼ in	18 00@ 19 00
1-inch wide boards	22 00@ ——
1¼ and 1½-inch wide boards	23 00@ ——
Kiln-dried sap	15 00@ 16 00
Rift-sawed flooring, rough cargo lot	36 00@ 38 00
" tongue and grooved, in carload lots	40 00@ ——

The North Carolina pine trade is in very good shape. It is safe to say that the North Carolina pine manufacturers wound up the year with a balance on the right side. Demand is good and all stock in sight is readily disposed of.

West Virginia spruce is gaining a foothold in this market, and is meeting with much favor. Some of its enemies would like to carry the idea among those who don't know that this spruce is not equal to the Eastern article, but, gradually, the dealers are finding out for themselves that this is all humbug, and that West Virginia spruce is as good as any spruce that ever grew, and so the orders are more freely given than has been the case heretofore. It rules in price about about a half a dollar a thousand higher than the Eastern article, but dealers are willing to give this, as they can order it in sizes exactly to suit.

Mr. Seymour, of whom we made mention in a previous article, has perfected arrangements for an exhibit of cypress at 18 Broadway, adjoining the offices of the New York *Lumber Trade Journal*. It is intended by this to show the architects the merits of this valuable wood by inviting them to a personal inspection, and it is hoped this will lead them to call for it in their specifications.

The hardwood trade is not brisk.

Holders of poplar are very stiff. They do not intend to let it go at the old prices, but buyers seem to hold back, the general opinion being that the recent tides will furnish a supply which will again tend to reduce prices. Many of our wholesalers are looking forward to the convention at Cincinnati, and wondering if the magnates will change their inspection rules to conform with common sense. The present rules, recently adopted, are considered more of a joke than as something to be governed by.

Quartered oak is about as we stated in our last issue. There is a demand for cargo lots.

QUARTERED OAK.

1x6 inch and up	$49 00@ 50 00
Thicker	50 00@ 53 00
Common	35 00@ 38 00

Plain oak is without change. Inch and a-quarter is in demand, and thick lumber which is dry is readily disposed of, but there does not seem to be much call for one inch.

PLAIN OAK.

1x8 inch and up	$35 00@ 36 00
1¼ and 1½ inch	36 00@ 38 00
2 inch	37 00@ 39 00
Export oak	32 00@ 34 00

The call for quartered sycamore is somewhat improved. Ash holds its own, and is in demand for good, dry stock.

ASH.

1 inch	$35 00@ 37 00
¼, ½ and 2 inch	37 00@ 40 00
2½, 3 and 4 inch	38 00@ 41 00
Common	22 00@ 24 00
Balusters	22 00@ 26 00

The demand for elm is continually increasing, and stocks are comparatively light.

Other conditions remain as last stated.

This is the first letter we shall write for you this year, and we close it with feelings of satisfaction, believing that there are better times ahead, and so we wish all the readers a happy new year.

Memphis.

[From our own Correspondent.]

MEMPHIS, TENN., January 2.

The past week has been a very dull one in the lumber business. The holidays, the shutting down for taking account of stock, combined with the bad, stormy weather, has pretty well closed out all outdoor work or shipments.

The year closes on a very satisfactory condition of affairs both in local and shipping lines of the lumber trade. The associate branches, including boxes, baskets and woodworking concerns, generally have all passed a very satisfactory year. The local stocks in the yards have gotten pretty low as to both quantity and quality, but there is an abundance at the mills which are controlled here, so that there is no delay or embarrassment in filling orders.

There have been no failures in the lumber firms here and but one change, the sale of the Memphis Lumber & Manufacturing Co. to A. W. Robinson. There has probably been an increase in the milling output of this territory of at least 20 per cent. during the year now past, additions both in new plants and in increase of the old concerns in their plant and machinery.

A delegation has been here for two or three days past representing the car works at Litchfield, Ill., which is preparing to remove its plant to some point in the South and enlarge the works. They were taken in charge by the president and secretary of the Young Men's Business League, and shown the varieties of timber and other inducements, and will, in all probability, decide to remove their plant to this place or to some point on the lines of road centering here and within the contiguous territory. They will employ at least 1000 hands, including all grades of workers. The wooden butter-dish folks have decided to come here and build their factory.

Some parties in Adams county, Miss., have formed a cottonseed-oil-mill company and will build a mill at Foster's Mound, a point seven miles from Natches, on Natches & Jackson Railroad.

Among the visitors at the office the past week was Whyte Bedford, of Lake Cormorant, Miss., who has a 20,000-a-day mill there, cutting about two-thirds of it in gum and the other third about equally divided between cypress and oak. He ships mostly to Chicago parties. He says that he has pretty well cut out the land he controls and is seeking a new location for his plant. C. C. Mengel, Jr., of the heavy Louisville hardwood house of Mengel & Bro., was in looking after some contracts. He was feeling well over the result of a suit of Brown against them for $10,000 for a leg shattered in their mill, in which for the first time in fifteen years a jury failed to decide against the mill-owner. He said that poplar was about exhausted and stumpage ruled much higher, and prices must go up; white quartered oak, demand lighter; plain red, higher in price; red quartered was overstocked. He thought the general outlook for 1893 was good and the promise bright. He made a contract here for 800,000 feet of sycamore. J. W. Buster, who is just starting a mill at Riverside, Ark., of 10,000 cypress a day, was here to make contract for the output.

There are a number of new enterprises in hand which will undoubtedly materialize in a few days, and the new year opens with good promise.

There is no change to note in prices, which, while being strong, are just where they were in January, 1892.

BLACK WALNUT.	
1st and 2d, 1, 1½ and 2-inch	$65 00@ 70 00
Common	35 50@ 40 00
Counter tops	90 00@110 00
ASH.	
1st and 2d clear, 1 to 4-inch	24 00@ 30 00
Common	12 00@ 14 00
CYPRESS.	
1-inch, 1st and 2d clear	22 00@ 24 00
1¼, 1½ and 2-inch	24 00@ 26 00
Fencing 1x6, 16 feet	15 00@ 16 00
POPLAR.	
1-inch, 1st and 2d clear	24 00@ 25 00
1½ and 2 nch, 1st and 2d clear	26 00@ 28 00
Common boards	14 00@ 16 00
Dressed, 1, 1½ & 2-in., 1st & 2d clear	28 00@ 30 00
Common dressed, 1-inch	16 00@ 17 50
Squares	22 50@ 26 00
COTTONWOOD.	
1 to 3-inch mill run, culls out	9 00@ 12 00
Squares	12 50@ 16 00
RED GUM.	
1st and 2d	16 00@ 20 00
Common and culls	8 00@ 10 00
OAK.	
1 to 4-inch, 1st and 2d	24 00@ 26 00
Common, 1 and 2-inch	13 00@ 15 00
Quarter oak, 1-inch, 1st and 2d	30 00@ 32 00
Quarter oak, 1¼-inch and up	34 00@ 36 00
White $1 higher.	
YELLOW PINE.	
1st and 2d, 1½ and 2-inch	18 00@ 20 00
Dressed	25 00@ 30 00
Flooring, 5 and 6 d and m	17 50@ ——
Flooring, 3 and 4 d and m	17 50@ 20 00
2d flooring	15 00@ 17 50
Heart step lumber	27 50@ ——
Ceiling, 1st and 2d, ¾, ⅝ and ½	17 50@ 20 00
Ceiling, 1st and 2d, ¾ and ⅞	16 00@ ——
Common f. o. b. Memphis.	
Car lots	12 50@ ——
TIMBER (LOGS).	
Poplar	6 00@ 10 00
Cypress	6 00@ 9 00
Cottonwood	3 00@ 4 00
Gum	3 00@ 4 50
Oak	6 00@ 12 00
Ash	8 00@ 13 00
Black walnut	15 00@ 50 00
SHINGLES.	
No. 1 heart cypress, 16-inch	3 00@ ——
No. 1 sap, 16-inch	2 25@ ——
LATH.	
Poplar	2 00@ 2 75
Cypress	——@ 2 50
Pine	——@ 2 00

IT is reported that a syndicate of American capitalists have secured control of the island of San Domingo by purchasing the right to collect the revenue and customs of the country, which are derived principally from tobacco growers. The price paid is, it is said, $3,500,000. If this be correct it will give the United States a harbor and coaling station at that point.

THE Suwanee Canal Co., which is cutting a canal through the Okeefenokee swamp, in Florida, has advanced well in its work, and the entire distance, twenty-five miles, will probably be completed by this coming March. The canal follows a straight course from one side of the swamp to the other, and will be fifty feet wide and from eight to ten feet deep. The company owns about 300,000 acres of land in the swamp, and when it has been drained by the canal an effort will be made to put it under cultivation.

A PLAN is afoot for the organization of a strong stock company, having for its purpose the construction of a dam across the Rio Grande river above El Paso, Texas, for irrigating purposes. A number of capitalists of New York city and Albany, N.Y., are interested in the scheme, and Mr. Gaylord Logan, of Albany, their representative, has been on the ground during the past two weeks investigating. He expresses himself as satisfied with the feasibility of the enterprise and the wisdom of investing in it. The work would cost about $2,500,000, and would require over a year for its completion. The company will organize at El Paso under the name of the International Dam & Irrigation Co., and the following gentlemen will compose the first board of directors: Messrs. Gaylord Logan, Wilson Hamilton, E. C. Roberts, Solomon Schulz, B. Salazar, Phœbus Freudenthal and J. H. Riley.

IRON MARKETS.

Philadelphia.

[From our own Correspondent.]

PHILADELPHIA, January 4.

The new year finds the iron trade in about the same condition as noted during the closing weeks of December. Many of the large consumers of pig iron which closed down during the holidays for repairs or stock-taking have not resumed active work yet, so that the demand during the week has not been of sufficient proportions to enable anyone to gage the exact condition of the market. The furnaces are believed to have accumulated stock during the past month, but not to a greater extent than was expected in view of the decreased consumption. What buying has been done was of the usual hand-to-mouth character, purchasers refusing to entertain any orders for material in excess of immediate wants. There is an absence, however, of any decided pressure on the part of the furnaces to stimulate buying by concessions on quoted rates, although there are isolated instances of sales of off-grade irons at slightly lower prices. Consumers' yards are generally bare of stock, and some of the foundries which made contracts in October and November for supplies to carry them into the new year will soon be in the market again, so that an increased demand is looked for before the close of the month. It is not expected, however, that prices will show any considerable change from those now in force. Manufacturers seem to recognize that the earlier part of the year at least will be a period of low prices, and are therefore considering closely the question of cost to manufacture in order to meet the competition of other sections and hold their trade. For the present quotations are firmly maintained as follows for good grades of iron at tidewater or its equivalent, with the usual concession on orders for Southern iron at points 100 miles west and south of here:

Standard Pa. No. 1 X	$15 00@	15 25
" " No. 2 X	14 00@	14 50
" Forge	13 00@	13 50
Southern coke No. 1 foundry	14 25@	14 75
" " No. 2 "	13 50@	14 00
" gray forge	13 00@	13 25

Wheeling.

[From our own Correspondent.]

WHEELING, W. VA., January 4.

The new year has begun, but it has not progressed far enough to give any indication as to what kind of iron and steel history it will make. As yet all finishing mills are idle, taking stock and making repairs. This is likely to continue for a week or two longer, and the time of resumption will be very largely governed by the demand at that time. Business is still considerably stagnated and consumers and small dealers are giving more attention to their annual settlements than to pushing new business. This condition is liable to continue to the middle of the month, but after that time a general reaction toward something better is confidently expected.

The idleness of the finishing mills has a tendency to create an oversupply of pig iron, and this in turn will likely enforce lower prices. Nearly all the furnaces in operation are getting stock ahead and are anxious to sell. Only a few of them are working on contracts made last year. The present dullness almost entirely removes from the situation the probability of more furnaces blowing in, which is that much gained at least. Prices are fairly well maintained in spite of this dullness, and a fall of five cents a ton is all that can be noted in the price of best quality mill iron since the last report. It is not likely, though, that furnacemen will haggle over a few cents a ton when their stock-yards begin to fill up.

One sale of 500 tons and another of 400 tons of mill iron at $12.45 is reported this week, and it is stated that another buyer offered to take 500 tons at $12.40. This last offer was refused, though the refusal is explained by the fact that the furnace to which it was made is one of the very few that are not hunting business just at this time.

Bessemer pig still seems to be on the down grade, and $13.75 is the highest price heard of in connection with it. Foundry irons continue to be in fairly good demand, the midwinter repairs of the mills keeping the foundries well employed.

Prices are quoted as follows:

No. 1 Northern mill irons	$12 45@	——
No. 1 Southern mill irons	12 35@	12 45
No. 1 foundry	14 75@	——
No. 2 "	13 75@	13 85
No. 3 "	13 00@	——
Bessemer	13 75@	——

COTTON MARKET.

NEW ORLEANS, LA., January 2.

Editor Manufacturers' Record:

The market may be best described as a waiting one. The influences on one side are the decreasing movement of amount coming into sight weekly and the general firmness of spot holders abroad as well as in this country; on the other hand, however, the fear of an anti-option bill being passed either by the Senate or the House, or both, makes buyers timid and sellers more confident, and at the same time it is creating a feeling among spinners everywhere that the enactment of such a law will place the spot holder in America in somewhat of a defenseless attitude. While spots might not decline so much as contracts, it would at the same time enable the consumer to buy more cheaply, and this, we think, must account largely for the continued apathy of the Continental and English buyers, for certainly it cannot be that trade alone can account for the continued indifference of the consumer everywhere in taking cotton as sparingly as he has done for a few months past. At the same time we find the premiums here for the spring months are almost as great now as they were six weeks ago. The loss coming into sight this past week is 74,000 bales, and in all probability will be 85,000 to 90,000 the present week, and perhaps more. We estimated on the 21st ult. that for the last week of December and the first two weeks of January there would be an average loss of 80,000 bales each week as compared with the same week last year. It looked very doubtful the early part of last week whether we should be right on the first week of the three, and in fact it seemed probable that the loss would not be more than 50,000 bales, but the indications now are that the first two weeks will show an average greater than 80,000, and a full average for the three weeks of that amount, making, therefore, about 500,000 to come into sight for the twenty-one days, against 750,000 last year. Our estimate made on the 19th ult. that we would have 4,750,000 in sight on January 1st will not be realized, as the figure will be smaller. The port movement here last week was large, but the overland and the small increase in stocks at interior points over the previous week was less, with Southern consumption, than 50,000 bales more than the total port movement for the week, and yet two weeks ago the overland movement to Northern mills was 50,000 bales alone. We feel that any material improvement now would be subject to quick depressions, because the higher we go the more decided will be the decline, which will certainly result from any anti-option legislation, which it seems we are certain to get a great deal of during balance of this session of Congress. We do not believe that such a bill will ever become a law, but at the same time the injurious effects from the continual agitation and threat of its passage may be just as serious as the actual passage of the Hatch or Washburn bill. We anticipate a very marked decrease in the movement from this time on, but, after all, as we have before stated, it will be the consumer who must come to the relief of the market sooner or later if we are to continue present prices or realize higher ones. We see nothing to change our estimate of 6,250,000 for this crop, as it will mean 1,500,000 bales more cotton to come into sight after Friday last than has already appeared at the ports, at the weekly reported interior towns and Southern and Northern consumption, the aggregate of the movement of which constitutes the weekly amount coming into sight.

ATWOOD VIOLETT & CO.

CLOSING PRICES OF FUTURES JANUARY 5.

Months.	New Orleans.	New York.	Liverpool.
January	9.56	9.64	5 17-64 buy.
February	9.63	9.77	5 18-64 buy.
March	9.70	9.88	5 20-64 buy.
April	9.76	9.98	5 21-64
May	9.83	10.07	5 23-64
June	9.90	10.15	5 25-64
July	9.96	10.22	5 27-64 buy.
August	....	10.26	5 26-64 sel.
September	....	....	....
October	....	....	....
November	....	....	....
December	....	....	....
Tone of market.	Firm.	Steady.	Firm.

CLOSING PRICES OF SPOT COTTON JANUARY 5.

Grade.	New Orleans.	New York.	Liverpool.
Middling	9 9-16	9⅞	5 5-16
Low middling	9 3-16	9 7-16	5 3-16
Good ordinary	8 11-16	8¾	5 1-16
Tone of market.	Firm.	Quiet and Steady.	Firm.

Southern Textile Notes.

MR. JAMES F. WRAY, of Reidsville, N. C., contemplates establishing a plant for the manufacture of cotton rope, twine, etc., and to that end is now corresponding to obtain complete information, cost of plant, etc.

CAPT. W. D. KYLE, who lately anticipated opening a 25-machine hosiery plant at Opelika, Ala., has been offered such inducements by the Board of Trade at Mobile, Ala., that he may locate in that city. The latter enterprise would be heavily backed by Mobile capital, and under the supervision of an experienced man like Captain Kyle, promises to move rapidly to the front as a new Southern industry.

THE Florence Mills at Forest City, N. C., recently started up by new owners, are meeting with all possible success, being compelled to operate day and night to fill orders.

THE Jackson (Tenn.) Woolen Mills, one of the best equipped in the South, which has been idle since September, 1890, is now operating full time with a jeans factory added.

THE Wytheville (Va.) Woolen & Knitting Mills Co. will enlarge its dyehouse and put in new machinery. This plant turns out cassimeres, blankets, flannels, jeans and hosiery, and its goods enjoy a fine reputation.

THE Excelsior Manufacturing Co., of Cuero, Texas, has been reorganized, and some Dallas parties, experienced in cotton manufacturing, will manage the mill. H. Runge & Co. and H. J. Huck & Co. are the financial backers of the concern, and fifty operatives will be employed.

THE cotton mill plant of the Falls of Neuse Manufacturing Co., at Swepsonville, N. C., was destroyed by fire during the week, causing a loss of $100,000. Mr. G. Rosenthal, the company's secretary, has stated that the mills will doubtless be rebuilt. The fire was due to the friction of the great belt, and all water pipes being frozen on account of the recent cold spell, nothing could be done to check it.

MR. JNO. R. EMSLEY, proprietor of the Monticello Knitting Mills at Charlottesville, Va., intends putting in additional machinery soon.

MESSRS. J. E. ANDERSON and C. E. Goodwin, lately of Olympia, Va., have established themselves at Cedar Bluff in the same State, and in company with S. S. Steele, started up the woolen mills. One set of cards and two looms will be operated in the manufacture of cassimeres, jeans, flannels, linseys, etc. Additions of new machinery will soon be made.

Phosphate and Fertilizer Notes.

THE steamships Rex and Lockwood have been chartered to load phosphate at Fernandina, Fla.

THE Leroy (Fla.) *News* says: "The phosphate companies are beginning to ship rock again, and work in the mines has already commenced."

T. W. PITTS, after whom the town of Pittston, Fla., is named, had his mining machinery all in position and ready to commence work on the 1st inst. This section has one of the richest phosphate beds in the State.

THE shipments of pebble phosphate from Port Tampa, Fla., for the week ending December 19, 1892, were as follows: Schooner Charles K. Schull, for Alexandria, Va., with 1241 tons, shipped by the Bone Valley Phosphate Co.; schooner Edith Berwind, for Baltimore, with 1099 tons, shipped by the Bartow Phosphate Co., and steamship Neto, for Antwerp, with 1689 tons, shipped by the Jacksonville Peace River Co. The steamship Annandale, loaded by the Netherlands Company, is not reported.

THE British steamer Storra Lee was cleared at Brunswick, Ga., on the 29th inst. for Bremen and London. Among her cargo she took out 1000 tons of Florida phosphate valued at $9000.

THE shipments of pebble phosphate from Punta Gorda, Fla., for the week ending December 24, 1892, were 1530 tons shipped per schooner Agnes Maning for Baltimore by the Charlotte Harbor Phosphate Co.

THE reorganization of the Pharr Phosphate Co., at Bartow, Fla., retains in the board of management Major John G. Reynolds, a large owner of its stock.

IT is stated that the Dunnellon Phosphate Co. will build fifteen miles of railroad to connect with the Ambler road at Early Bird, Fla. This company has begun the erection of a handsome office to cost probably $3000. They have bills for lumber for an elevator and storeroom that will contain 10,000 carloads of phosphate. The company have already shipped 861,229 tons of phosphate to Fernandina up to January 1, 1893.

THE Homeland Pebble Phosphate Co. has completed its line of railway from the works at Bartow, Fla., to a connection with the Florida Southern Railroad, and has begun delivering a cargo of pebble now en route for Port Tampa to receive it. This company has now completed all facilities for shipping, and as they have had large stocks of pebble on hand for some time, active operations will now ensue. The deposit is extensive and the pebble of high grade.

THE British steamship Leander was cleared from Brunswick, Ga., on the 1st inst. for Liverpool, Eng., with a cargo valued at $213,391. One item on her manifest included 1475 tons of Florida phosphate, valued at $14,750.

A STRONG stock company has been formed with John M. Bass, of Fort Wayne, Ind.; Calvin S. Brice, of Ohio, and Samuel Thomas as the leading stockholders, for the purpose of erecting car works at Lenoir City, Tenn. They propose erecting a plant at a cost of $250,000 to have a capacity of fifteen complete cars daily, and the necessary machinery is now being purchased. Charter has been applied for under the name of the Lenoir Car Works and Car Wheel Foundry.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

* Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

☞ In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Bag Factory.—O M. Reynolds contemplates starting a bag factory.*

Birmingham—Fertilizer Plant.—Endeavors are being made to organize a company to erect a fertilizer plant to utilize the street-cleanings, garbage, etc.

Brewton — Canning Factory.— Endeavors are being made to organize a company to establish a canning factory. C. F. Rankin can inform.

Hamptonville—Saw Mill.—J. P. Grant will erect a saw mill.

Muscadine—Planing Mill.— Moore & Pollard will add planing-mill machinery to their saw mill.

Plantersville—Saw Mill.—The E. E. Jackson Lumber Co. will put in a saw mill.

Renfro—Saw and Shingle Mill.—R. M. Rogers will erect a saw and shingle mill.

Rockford—Machine Shop.—A machine shop is being erected by J. G. Fulmer and D. L. McAlister.

Scottsboro — Coal Mines. — R. G. Banks, of Florence, Ala., and A. A. Berger, of Baltimore, Md., have purchased valuable coal deposits in Jackson county, Ala., and will open and operate coal mines.

ARKANSAS.

Clarendon—Lumber Company.—The Clarendon Lumber Co. has been incorporated with F. S. Ellis, president and treasurer; P. J. Wilden, vice-president, and George Spencer, secretary. The capital stock is $50,000.

Helena—Saw Mill.—McLevy & Co. will erect a saw mill.

Pine Bluff—Shingle Company.—The Red Cypress Shingle Co. has been chartered with J. B. York, president, and C. J. Samstag, secretary and treasurer; capital stock $5000.

FLORIDA.

Geneva—Irrigating Plant.—Farwell & Lee will erect an irrigating plant.

Jacksonville — Saw Mill.—William Sketter is erecting a saw mill near Jacksonville.

Titusville—Saw and Planing Mill.—R. Ransom will erect a saw and planing mill.

GEORGIA.

Atlanta—Spice Mills.—The Atlanta Spice Mills have been established by the Kangra Valley Tea Co. for the manufacture of spices.

Cedartown—Saw Mill.—Philpot & Oppert will erect a saw mill.

Chickamauga—Saw Mill.—W. J. West, of Mission Ridge, will erect a saw mill.

Louisville—Saw and Shingle Mill.—G. H. Harrell will erect a hardwood saw mill and cypress shingle mill.

Savannah — Bottling Works.—The Savannah Consolidated Bottling Co. has been incorporated by H. Precht, H. F. Sutter, C. Seeman, J. D. Helmken, G. Eberwein and G. Campsen. The capital stock is $5000, with privilege of increasing it to $50,000.

Savannah—Canning Factory.—Endeavors are being made to establish a canning factory. William Bailey can give information.

Savannah.—The Savannah Grain & Provision Co., reported last week as incorporated, will organize with Solomon Shiftall, president; Wm. J. Brotherson, secretary and treasurer, and George G. Wilson, superintendent.*

KENTUCKY.

Bowling Green—Stave and Heading Factory.—T. J. Sullivan will rebuild his stave and heading factory recently burned.

Covington — Coal Mines.— C. B. Simrall, A. Mack and J. D. Henry have incorporated the Beaver Creek Coal & Mining Co. to operate coal mines, etc. The capital stock is $250,000, with privilege of increasing to $1,000,000.

Dillion—Saw Mills.—W. R. Dillion will erect two saw mills.*

Lexington —Tobacco Factory.—The company reported last week will be organized as the Lexington Tobacco Co. with a capital of $50,000.

Louisville—Paint Mill.—F. M. Lampton, W. F. Crane and H. S. Ramey have incorporated the Lampton, Crane & Ramey Co. to manufacture and deal in oils, paints, etc. The capital stock is $50,000, with privilege of increasing to $200,000.

Louisville — Candy Factory. — The Frank A. Menne Candy Co. has been incorporated to deal in and manufacture confections, by F. A. Menne, W. Kimmel and A. Busath. The capital stock is $100,000.

Louisville—Real Estate Company.—The South Side Land Co. has been incorporated for the purpose of improving real estate. The capital stock is $8000.

Louisville—Restaurant Company.—The Louisville Restaurant Co. has been incorporated for the purpose of maintaining restaurants, etc. The capital stock is $25,000.

Newport—Iron and Steel Company.—The National Iron & Steel Co. has been incorporated by Harry Benjamin and Henry Benamin to buy and sell iron, steel, etc. The capital stock is $25,000.

Owensboro—Tobacco Factory.—D. H. Martin, of Greenville, contemplates establishing a tobacco factory at Owensboro in association with Allen Gilmour and W. H. Brannon, of Owensboro.

Somerset—Barrel and Keg Works.—The Central Cider Co. will start keg and barrel works.

LOUISIANA.

New Orleans—Wagon Material Supply Factory. The Southern Wagon Material Supply Manufacturing Co., Limited, has been incorporated to manufacture and deal in all kinds of wagon material, with E. Jordy as president; John Schmid, vice-president, and William Grimshaw, secretary and treasurer. The capital stock is $25,000.

New Orleans—Publishing Company.—The Daily States Publishing Co. has been incorporated to conduct a daily and weekly paper and to do a general publishing business, with H. J. Hearsey, president, and J. P. Smith, secretary. The capital stock is $50,000.

New Orleans—Lumber Mills.—The Gulf Lumber Co., Limited, has been incorporated to deal in and manufacture lumber, shingles, etc., and to operate saw and planing mills, with L. B. McEwen as president; T. F. Norton, vice-president, and S. Lewison, secretary and treasurer. The capital stock is $100,000.

New Orleans.—The Crescent City Live Stock Landing & Slaughter-House Co. will enlarge and improve its plant. The cost of the plant when completed will be over $50,000.

MARYLAND.

Baltimore—Telephone Company.—The People's Telephone Co. has been incorporated by L. B. McCabe, J. H. C. Watts, W. Wilson, G. R. Carter, C. H. Ware and B. H. Warthen. The capital stock is $500,000.

Baltimore—Publishing Company.—The John H. Williams Publishing Co. has been incorporated by J. H. Williams, H. T. Poor, W. R. Wilson, J. McElvoy and J. R. Barry. The capital stock is $6000.

Baltimore — Manufacturing Company. — The Coaline Co. has been incorporated to manufacture coaline, chemical preparations, etc. The incorporators are G. O. Gover, R. Dozier, Jr., J. C. Davis, B. T. Johnson and W. C. Lowndes. The capital stock is $50,000.

Baltimore—Publishing Company.—B. S. Johnston, D. Bachrach, J. A. Whitcomb, J. G. Schonfarber and M. N. Packard have incorporated the Critic Publishing Co. The capital stock is $10,000.

Baltimore—Machinery Dealers.—Thos. K. Carey & Bros. have incorporated as the Thos. K. Carey & Bros. Co. to conduct their machinery business.

Big Spring—Creamery.—A company has been organized to establish a creamery with John Martin, president, and Benjamin Charles, secretary and treasurer.

Cumberland—Paper Mills.—L. Lowndes, R. R. Henderson, P. H. Daughtrey, D. P. Miller and A. H. Amick have incorporated the Cumberland Paper Co. to manufacture wood pulp, paper, etc. The capital stock is $100,000.

Frederick — Straw Hat Factory.—Frank and Ignatius Goode, C. W. Ross, Henry Williams, of Frederick, and F. J. Fitzpatrick, of Baltimore, have organized the Goode Manufacturing Co. to manufacture straw into hats and other articles.

MISSISSIPPI.

Biloxi—Planing Mill.—J. R. Harkness will erect a planing mill.

Magnolia—Lumber Mill.—Envih Bros. will remodel their mills and add a gang saw.

Natchez—Shingle Mill.—Kranson & Caspari contemplate adding a shingle mill to their lumber plant.

Norfield—Lumber Mill.—The Norwood & Butterfield Co. will put in a new flooring machine.

Pott's Camp—Saw Mill.—C. H. Reid will erect a hardwood saw mill.

Vicksburg—Furniture Factory.—Endeavors are being made to organize a company to establish a furniture factory.

NORTH CAROLINA.

Raleigh — Spring-bed Works. — The Raleigh Spring Bed Co. will increase its capital and enlarge its plant.

South Mills.—Geo. Beveridge will rebuild his shuck factory, reported in this issue as burned.

Statesville—Saw Mills.—Clarke, Meyer & Co. contemplate enlarging their plant.

Sweptonville—Cotton Mill.—The Falls of Neuse Manufacturing Co. will rebuild its cotton mill, reported in this issue as burned.

Wilmington—Electric-light Plant.—The Wilmington Street Railway Co. will erect an electric-light plant.

SOUTH CAROLINA.

Camden—Planing Mill.—Crenshaw & Bolin will erect a planing mill near Camden.

Hannah—Brick-yard.—Ard & Spring have established a brick-yard.

Varnville—Brick Works.—A stock company is being organized to erect brick works. E. R. Ginn can inform.*

TENNESSEE.

Arlington — Spoke Works. — The Arlington Spoke Works will add rim machinery to its plant.

Clarksville—Carriage Factory.—J. E. Elder and J. A. Holleman have purchased the carriage works of A. Dugan and will operate same.

Fall River—Saw Mill.—White & Sanders will erect a saw mill.

Harriman — Laundry. — The Crescent Steam Laundry has been established by Hisey & Aydelott.

Huntington—Planing Mill.—Leach, Wieder & Co. will establish a planing mill.

Johnson City—Agricultural Implement Factory. George R. Hurlbert will establish a plant to manufacture harrows, cultivators, etc.

Kenton—Stave Mill.—J. C. Connell will enlarge his stave mill and add other machinery.

Lenoirs—Car Works.—John M. Bass, of Fort Wayne, Ind.; Calvin S. Brice, of Ohio, and Samuel Thomas have organized a company to erect a $250,000 car works plant.

Litton—Lumber Mill.—Tulloss & Riggs will establish a lumber mill.

McMinnville—Woolen Mill.—The Tennessee Woolen Mills may put in new machinery.*

Memphis—Planing Mills.—J. M. Darnell & Son will enlarge their planing mills.

TEXAS.

Alvarado—Electric-light and Water Works Plant.—An electric-light and water works plant is being erected.

Atlanta—Lumber Mill.—R. W. Grogan will erect a lumber mill with a capacity of 20,000 feet daily.

Bryan—Cotton Compress.—A new company has been organized with W. Koppe, as president; M. D. Cole, vice-president; J. W. Howell, secretary, and H. O. Boawright, treasurer, to erect a compress.

Cleveland—Planing Mill.—A. S. Hall will erect a planing mill.

Conroe—Lumber Mill.—Griffin & Fisher will erect a lumber mill with a capacity of 30,000 feet daily.

Dallas—Mercantile Company.—The Grange Mercantile Co. has been incorporated to sell general merchandise. The capital stock is $10,000.

Dublin—Agricultural Machinery.—The Dublin Harrow Co. has been incorporated by E. Jones, R. H. McCain, G. W. Andras and A. A. Hartgrove to manufacture implements. The capital stock is $10,000.

Fort Worth—Electric-light Plant.—The Fort Worth Light & Power Co. will enlarge and extend its plant.

Houston—Sugar Mill.—R. J. Willis & Co., of Galveston, will rebuild their Houston sugar mill reported in this issue as burned.

Houston—Sugar Mill.—H. B. Claflin & Co. will rebuild their sugar mill reported in this issue as burned.

Hughes Springs—Shingle Mill.—G. H. Allen will erect a shingle mill.

Jacksonville—Mercantile Company.—The Jacksonville Grocery Co. has been incorporated by J. C. Garrett, C. Hawkins, W. P. Devereup, F. E. Hann and J. F. Francis, Jr. The capital stock is $30,000.

San Antonio—Baking-powder Factory.—C. F Riley is secretary, and D. S. Riley, president and general manager, of the Globe Baking Powder Co., reported last week as incorporated. Factory will be started at once.*

Victoria—Electric-light Plant.—The Victoria Light & Power Co. will increase the capacity of its plant.

VIRGINIA.

Cedar Bluffs—Woolen Mills.—C. E. Goodwin, J. E. Anderson and S. S. Steele will operate the Cedar Bluffs woolen mills and add new machinery.

Charlottesville—Ice Factory.—The Hercules Ice Co., lately reported as erecting an ice plant, has been incorporated. The capital stock is $25,000.

Clifton—Woolen Mills.—The Nettleton Woolen Manufacturing Co. will increase its capital and add new machinery.

Cowan's Depot—Spoke and Shingle Factory.—J. F. Fitzsimmons will establish a spoke and shingle factory.

Isle of Wight—Land and Improvement Company.—The Day's Point Land & Improvement Co. has been incorporated to improve real estate and for construction of electric and gas plants. The capital stock is $50,000.

Lynchburg—Flour Mill.—Johnson & Hurt will rebuild their flour mill reported in this issue as burned.

Meadowville—Saw Mill.—Edward C. Barney will build a saw mill.

Petersburg—Furniture Company.—The Petersburg Furniture Co. has been incorporated to conduct the furniture business. The capital stock is $20,000.

Petersburg—Mercantile Company.—The Wm. R. Nichols Coal Co. has been incorporated to conduct the fuel and coal business. The capital stock is $15,000.

Richmond—Mining.—The Rivanna Talc Mining & Manufacturing Co. has been incorporated. The capital stock is $50,000.

Richmond—Mercantile Company.—The Richmond Co-operative Fuel, Lumber, Feed & Ice Co. has been incorporated to deal in feed, fuel, etc. The capital stock is $25,000.

Richmond—Tobacco Factory. — The Thomas Hanewinckel Co. has been incorporated to manufacture cigars, etc. The capital stock is $25,000.

Roanoke.—The Terry & Huff Cattle & Farming Co. has been incorporated with P. L. Terry as president; S. W. Jamison, vice-president, and L. S. Davis, secretary and treasurer, to conduct a general farming, cattle, dairy and creamery business. The capital stock is $49,000.

Suffolk — Mattress Factory. — The Suffolk Spring Bed Co., lately reported as erecting a factory, has been incorporated to manufacture woven-wire beds, etc. The capital stock is $50,000.

Wytheville — Ice and Dairy Company.— The Wytheville Crystal Ice & Dairy Co. has been incorporated to conduct the ice and dairy business. The capital stock is $20,000.

Wytheville—Woolen and Knitting Mills.—The Wytheville Woolen & Knitting Mills Co. will add machinery.

WEST VIRGINIA.

Bretz—Lumber Mills.—The Dry Fork Boom & Lumber Co. has been incorporated to operate mills by L. Z. Condon, of Baltimore, Md.; Martin Lane, of Wilmington, Del., and others. The capital stock is $100,000.

Cairo—Planing Mill.—F. M. Telrish will erect a planing mill.

Moundsville — Electric-light Plant. — Albert Snape & Bro. will put an electric-light plant in their woolen mill.*

Spencer—Saw Mill.—Nicola Bros., of Pittsburg, Pa., will erect a saw mill.

Wheeling—Planing Mill.—Chapman & Wilson are remodeling their planing mill and will put in new machinery.

Wheeling—Corrugating Works.—Caldwell & Peterson will rebuild their corrugating works reported in this issue as burned.

BURNED.

Charleston, W. Va.—Killinger Bros.' tannery; loss $15,000.

Houston, Texas.—H. B. Claflin & Co.'s sugar mills, operated by E. R. Brown, of Houston.

Houston, Texas.—The sugar mill of R. J. Willis & Co., of Galveston.

Lynchburg, Va.—Hollin's mill operated by Johnson & Hurt; loss $8500.

Midway, La.—E. E. Montgomery's cotton gin.

Nashville, Tenn.—Sulzbacher Bros.' vinegar works; loss $30,000.

Rockwall, Texas.—Henry Hoskin's cotton gin; loss $2,000.

South Mills, N. C.—Mr. Beveredge's shuck factory.

Sweptonville, N. C.—The Neuse Mfg. Co.'s cotton mill; loss $100,000.

Wheeling, W. Va.—Caldwell & Peterson's corrugating works; loss $100,000.

BUILDING NOTES.

Georgetown, Ky.—Kinzea Stone will erect a $12,000 dwelling.

Washington, D. C.—W. J. Wallace will erect an $8000 dwelling.

Washington, D. C.—The Brookland Hall & Literary Society will erect a hall at a cost of $7800. E. Von Nerta is architect, and E. S. Morgan builder.

RAILROAD CONSTRUCTION.

Florence, S. C.—Street Railway.—The bill to incorporate the Florence Street & Suburban Railway Co. has passed the legislature, and Jno. P. Coffin, who is president of the company, states that the construction of the road will soon commence.

Garrett, Texas—Railroad.—E. H. R. Green states that a railroad will be built at once from Garrett to Waco to connect the Texas Midland Railroad and the Waco & Northwestern Railroad. A new charter will be obtained for the latter road and a new company organized to operate it.

Hot Springs, Ark.—Electric Railway.—Edward Hogaboom has let contract for the grading on his electric railway projected to the Ouachita river, and work is to begin at once. The road will be five miles long.

Inverness, Fla.—Railroad.—The South Florida Railroad Co (office, Sanford) has commenced work on its new extension from Inverness to High Springs, ground having been broken on December 19. The location of this line was finished in November, as we were informed at the time by T. L. Martin, constructing engineer.

La Porte, Texas—Railroad.—Contract for grading, clearing and bridging about eight miles of the La Porte, Houston & Northern Railroad has been let to J. F. Allen. The work on this line will be commenced at once and pushed with all rapidity possible.

Mobile, Ala.—Railroad.—The recent purchasers of the Mobile street railway have chartered as the Mobile Light & Railway Co., and will arrange for changing the railway to an electric line. The incorporators are Jno. Wilson, J. H. Wilson, J. C. Lisle, G. C. Rogan. W. E. Gordon and Geo. E. Sage; capital stock $500,000.

Portland, Texas.—Railroad.—The Portland, Monterey & Gulf Railway Co. has been organized at Little Rock, Ark. Its purpose is to build a standard gage railroad from Portland to Monterey, Mexico. The following are interested in the company: W. S. Dunlop, of Little Rock; Jno. S. Little, of Greenwood; E. H. Henderson, of Searcy; Jno. Willacy, of Portland; W. K. Carlisle, of Chicago; A. B. Hall, of Monticello, and others.

Rock Springs, Texas—Railroad.—A dispatch from Rock Springs states that the Fort Worth & Rio Grande Railway is actively pushing preparations for its extension into Southwest Texas. Surveyors are now working in Mason county, and the exact route of the new road will not be determined until they are finished.

Wadesboro, N. C.—Railroad.—The Atlantic Coast Line has made preliminary surveys for a line from Wadesboro to Winston, a distance of ninety miles. Construction work will be commenced as soon as the locating surveys are completed.

Arrangements have been effected through the agency of Edward Morton & Co., 53 Broadway, New York, for the conversion of the street railroad system of Lancaster, Ohio, into an electric road. This embraces the changing of the present horse-car road of about four miles into electric and the extending of the road six miles. Work on the present road will be commenced immediately, and on the extension in the spring.

R. C. Pope, Chamber of Commerce, Chicago, is meeting with splendid success in the sale of his improved reversible street roller, which is handled by horse-power. The cheapness and convenience of this roller has made it quite popular with builders of streets and roads. Mr. Pope has issued a new catalogue which contains, besides cuts of the roller and testimonials, some very practical ideas in road-making, which he will be pleased to mail to any one interested in the improvement of our streets and highways.

MACHINERY WANTED

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Bag Factory.—O. M. Reynolds, Anniston, Ala., wants prices on outfit of machinery for bag factory.

Barrel Machinery.—The Central Cider Co., Somerset, Ky., wants barrel machinery.

Blower.—W. J. Dunlop, Tallapoosa, Ga., wants prices on 24-inch blower for foundry.

Boiler.—The Globe Baking Powder Co., San Antonio, Texas, will want a three to five horse-power boiler. Address D. S. Riley, president.

Boiler.—The Berkeley Springs Water Works & Improvement Co., Berkeley Springs, W. Va., will need a boiler.

Brick Works.—E. R. Ginn, Varnville, S. C., wants estimates on cost of brick works with 20,000 capacity daily.

Bridge.—C. A. Porter, Flat Rock, Ind., wants to contract for the construction of a foot suspension bridge over a stream 300 feet long.

Broom Machinery.—J. O. James, Petersburg, Va., wants information and prices on broom-making machinery.

Can Machinery.—T. B. Ferguson & Sons, Lexington, Ky., will want a can machine.

Cannery.—J. E. Curtis, Wellsburg, W. Va., wants information on cannery and cost of outfit for same.

Coffee Roaster.—The Globe Baking Powder Co., San Antonio, Texas, will want a coffee roaster. Address D. S. Riley, president.

Cotton-mill Machinery.—Jas. F. Wray, Reidsville, N. C., wants to know the cost of a plant for manufacturing cotton rope, twine, etc.

Drill Press.—W. J. Dunlop, Tallapoosa, Ga., wants prices on 20-inch drill press.

Electrical Works.—The McNeill Tinder Electric Co., Winchester, Ky., will need an equipment for electrical works.

Electric-light Plant.—Morton & Bradway, Athens, Ga., want prices on electric-light plant of 250 incandescent lights, alternating current, necessary transformers, lamps and all other apparatus necessary to install first-class plant.

Electric-light Plant.—Albert Snape & Brother, Moundsville, W. Va., will soon want full equipment for electric lighting (except steam-power) for thirty incandescent lamps.

Electric-light Plant.—The Berkeley Springs Water Works & Improvement Co., Berkeley Springs, W. Va., expects to establish an electric-light plant.

Electric-light Plant.—The Tennessee Woolen Mills, McMinnville, Tenn., may buy small electric-light plant.

Elevator.—The Savannah Grain & Provision Co., Savannah, Ga., wants an elevator.

Engine.—The Clinton Manufacturing Co., Clinton, S. C., will want a sixty horse-power engine.

Engine.—The Tennessee Woolen Mills, McMinnville, Tenn., may buy an engine.

Engine.—The Berkeley Springs Water Works & Improvement Co., Berkeley Springs, W. Va., wants an engine.

Engine.—The Globe Baking Powder Co., San Antonio, Texas, will want an engine. Address D. L. Riley, president.

Gasoline Engine.—T. B. Ferguson & Sons, Lexington, Ky., need a gasoline engine.

Ice Machinery.—James Aumann, Wytheville, Va., wants to correspond with manufacturers of icemaking machinery, as he wants full particulars.

Keg Machinery.—The Central Cider Co., Somerset, Ky., wants keg machinery.

Knitting Mills.—Fifty or more knitting machines will be wanted by P. O. Box 559, Greenville, S. C.; state terms and give complete particulars.

Lathe.—W. J. Dunlop, Tallapoosa, Ga., wants prices on 20-inch lathe and on 10-inch lathe, new and second-hand.

Lathe.—The Dilley Foundry Co., Pine Bluff, Ark., wants to purchase a 20-inch by 8-foot screw-cutting lathe.

Lime Furnace.—The Anniston Lime & Coal Co., Anniston, Ala., is in the market for lime furnace outfit.

Molder.—The Clinton Manufacturing Co., Clinton, S. C., will want a 9-inch 4-side molder.

Pump.—The Berkeley Springs Water Works & Improvement Co., Berkeley Springs, W. Va., will need pump.

Piping.—The Berkeley Springs Water Works & Improvement Co., Berkeley Springs, W. Va., will need about one and a-half miles of pipe.

Planer.—W. J. Dunlop, Tallapoosa, Ga., wants prices on an iron planer eight or ten feet long, second-hand.

Planing Mill.—W. R. Dillion, Dillion, Ky., may soon want planing-mill machinery.

Presses.—The Dilley Foundry Co., Pine Bluff, Ark., wants to purchase a 10 or 15-ton wheel press and an 18-inch or 20-inch drill press.

Rice Machinery.—The Savannah Grain & Provision Co., Savannah, Ga., wants a machine for manipulating rice, that is, assorting different sizes of bean and fanning it. Solomon Sheftall, president.

Saws.—D. B. Barbour, Roanoke, Va., wants prices on a band saw complete. Also on one saw three-quarters, one saw one-half, one saw three-eighths and two saws one-quarter.

Shafting, etc.—The Clinton Manufacturing Co., Clinton, S. C., will want 100 feet of two and seven-sixteenths shafting and hangers.

Shaper.—The Dilley Foundry Co., Pine Bluff, Ark., wants to purchase an 18 or 20-inch stroke shaper.

Spice Mill.—The Globe Baking Powder Co., San Antonio, Texas, will want a spice mill. Address D. L. Riley, president.

Spindle Shaper.—D. B. Barbour, Roanoke, Va., wants a single spindle shaper with one-half dozen good variety of bits.

Spring machinery.—G. M. Burnett & Co., Moreland, Ky., wants cast spool or roller for making spiral springs.

Standpipes.—Sydner & Shepard, Richmond, Va., are in the market for two iron standpipes, one to be thirty feet in diameter and eighty feet high, plain iron ladder and cornice finish on top, the other 25x100 feet. Want prices, erected, specifications, etc. (without foundations).

Tank.—The Georgia Farmers' Oil & Fertilizer Co., Madison, Ga., contemplate erecting a 5000-gallon iron tank.

Wire Machine.—Jno. N. Stearns & Co., Petersburg, Va., are in need of a wire straightener for wire up to ¼-inch diameter.

Wood Pulp Machinery.—The Richmond Basket & Woodenware Co., Richmond, Va., wants catalogue and price-list of wood pulp machinery.

Woodworking Machinery.—The Ybor City Novelty Works, Tampa, Fla., will want woodworking machinery. Address T. N. Henderson, manager.

The Acorn Shoe Dressing Co., of 1027 Shelby street, Louisville, Ky., wants prices on shellac and sponges and 4-ounce shoe-dressing bottles. The company also wants addresses of aniline manufacturers.

Messrs. Morton & Bradway, Athens, Ga., want prices on furniture to furnish 70-room hotel; good substantial furniture wanted.

SOUTHERN FINANCIAL NEWS.

New Banks.

Augusta, Ga.—The Georgia Railroad Bank has been organized to continue the banking business of the Georgia Railroad & Banking Co. The following are the officers and directors: President, Charles H. Phinizy; vice-president, Hamilton H. Hickman; cashier, Charles G. Goodrich; directors, Col. Charles H. Phinizy, Judge William M. Reese, Gov. Henry D. McDaniel, H. H. Hickman, Hon. James H. Alexander, Major Daniel N. Spear, Leonard Phinizy, Dr. Robert D. Spaldjng, Jacob Phinizy, George D. Thomas, William A. Latimer and Charles G. Goodrich.

Bartow, Fla.—The Polk County National Bank has purchased the Bank of Bartow, assuming the latter's liabilities, and covering all its assets with a collateral guarantee for their full collection. Warren Tyler is cashier.

Camden, Ala.—The Wilcox County Bank, reported lately as chartered by the legislature, will be ready for business by April next. Sol. D. Block can inform.

Hope, Ark.—A bank with a capital of $50,000 has been organized with J. T. West, president, and S. R. Oglesby, cashier.

Salisbury, Md.—The Farmers and Merchants' Savings Bank has been organized with the following directors: Geo. D. Insley, K. C. Horsey, Oak Hall, Va.; W. H. Stevens, Seaford, Del.; John Robinson, Sharptown; N. T. Fitch, R. D. Grier, W. H. McConkey, A. F. Parsons, L. P. Coulbourn, Lacy Thoroughgood, D. W. Perdue and H. Brewington, of Salisbury. Mr. Stevens is president and Mr. Grier vice-president and Dr. Samuel A. Graham cashier.

Washington, N. C.—The bank reported fully in our issue of 23d inst. will be a State bank, and is to be known as the Bank of Washington. Charter will be procured as soon as the legislature meets, and business is expected to be commenced about February 1st. Thos. J. Latham, cashier.

Washington, N. C.—The First National Bank, reported last week as applying for authority to organize, will succeed the Beaufort County Bank, A. M. Dumay, cashier.

Winnsborough, S. C.—The corporate existence of the Winnsborough National Bank has been extended to January 31, 1913.

Baltimore, Md.—The Traders' National Bank has declared a semi-annual dividend of 3 per cent., and the People's Bank a semi-annual dividend of 2 per cent.

Baltimore, Md.—The Border State Savings Bank has declared an extra dividend of 1 per cent., the National Howard Bank a dividend of 2½ per cent., the National Bank of Baltimore a semi-annual dividend of 4½ per cent., the Commercial and Farmers' National Bank a semi-annual dividend of 3 per cent., the National Bank of Commerce a semi-annual dividend of 2½ per cent., the American National Bank a semi-annual dividend of 2½ per cent., the Merchants' National Bank a semi-annual dividend of 4 per cent., the Equitable National Bank a semi-annua dividend of 2½ per cent., the German-American Bank a semi-annual dividend of 3 per cent., the Farmers and Merchants' National Bank a semi-annual dividend of 3½ per cent., the George's Creek Coal & Iron Co. a semi-annual dividend of $3.00 per share, the National Union Bank of Baltimore a dividend of 3½ per cent., the German Bank of Baltimore City a semi-annual dividend of 2½ per cent., the Drovers and Mechanics' National Bank a semi-annual dividend of 3 per cent., the National Farmers and Planters' Bank a semi-annual dividend of 5 per cent., the National Exchange Bank a semi-annual dividend of 3 per cent., the Manufacturers' National Bank a semi-annual dividend of 3½ per cent., the National Mechanics' Bank a semi-annual dividend of 3 per cent., the Citizens' National Bank a semi-annual dividend of 5 per cent., the American Fire Insurance Co. a semi-annual dividend of 4 per cent., the Maryland Fire Insurance Co. a semi-annual dividend of 3 per cent., the German Fire Insurance Co. a dividend of 5 per cent., the Third National Bank a semi-annual dividend of 2 per cent., the Associated Firemen's Insurance Co. a semi-annual dividend of 4 per cent., the Northern Central Railway Co. a semi-annual dividend of 5 per cent., the Western National Bank a semi-annual dividend of 4 per cent., the German-American Fire Insurance Co. a semi-annual dividend of 3 per cent., and the Peabody Fire Insurance Co. a semi-annual dividend of 5 per cent.

Bedford City, Va.—The First National Bank has declared a semi-annual dividend of 4 per cent.

Birmingham, Ala.—M. A. Devitt, of Chicago, has purchased $140,000 of Birmingham's new bonds at a premium of 2½ per cent. and accrued interest.

Charleston, S. C.—The First National Bank has declared its regular semi-annual dividend of $6.00 per share and a special dividend of $10.00 per share, the American Savings Bank a dividend of 10 per cent., the South Carolina Loan & Trust Co. a semi-annual dividend of $3.00 per share, the Exchange Banking & Trust Co. a semi-annual dividend of $3.00 per share, the Charleston City Railway Co. a dividend of $1.50 per share.

Charleston, S. C.—The Central National Bank has declared a semi-annual dividend of 5 per cent., the Charleston City Railway Co. a dividend of $1.50 per share, the Bank of Charleston National Banking Association a semi-annual dividend of $4.00 a share, the American Savings Bank an annual dividend of 10 per cent., the Exchange Banking & Trust Co. a semi-annual dividend of $3.00 per share, the Dime Savings Bank a semi-annual dividend of $3.00 per share, and the Nickel Savings Bank a semi-annual dividend of $1.50 per share.

Chattanooga, Tenn.—The Chattanooga National Bank has declared a dividend of 4 per cent.

Columbia, S. C.—The Loan and Exchange Bank has declared a dividend of 4 per cent.

Columbus, Ga.—The Third National Bank has declared a semi-annual dividend of 3½ per cent., the Columbus National Bank a semi-annual dividend of 5 per cent., the Chattahoochee National Bank a 4 per cent. dividend, the Merchants and Mechanics' Bank a semi-annual dividend of 4 per cent., the Muscogee Manufacturing Co. an annual dividend of 6 per cent. The Eagle & Phenix Manufacturing Co. has paid 3 per cent. interest on $724,000 in coupon bonds, paying out $22,720. They are also paying 5 per cent. interest on $296,000 in deposits.

Eufaula, Ala.—The Eufaula Cotton Mills have declared a semi-annual dividend of 4 per cent.

Fort Worth, Texas.—The city will receive bids until January 20, 1893, for the purchase of $158,000 of 5 per cent. gold bonds, dated May 1, 1893, payable semi-annually. For further particulars address B. B. Paddock, mayor.

Galveston, Texas.—The First National Bank has declared a semi-annual dividend of 6 per cent., and the Texas Guarantee & Trust Co. a semi-annual dividend of 4 per cent.

Louisville, Ky.—The Louisville Banking Co. has declared a quarterly dividend of 4 per cent., the Farmers' Tobacco Warehouse Co. an annual dividend of 10 per cent., the Third National Bank a semi-annual dividend of 4 per cent., the

German Bank a semi-annual dividend of 9 per cent., the Western Bank a semi-annual dividend of 4 per cent., the Western Insurance Co. a semi-annual dividend of 4 per cent., the Birmingham Rolling Mill Co. a semi-annual dividend of $3.50 per share, the Kentucky Trust Co. a semi-annual dividend of 3 per cent., the Merchants' National Bank a semi-annual dividend of 3 per cent., the Dime Savings Bank a semi-annual dividend of 3 per cent., the Louisville Trust Co. a quarterly dividend of 2 per cent., the Louisville Deposit Bank a semi-annual dividend of 3 per cent., the German Insurance Bank a semi-annual dividend of 5 per cent., the German Insurance Co. a semi-annual dividend of 3 per cent., the Farmers & Drovers' Bank a semi-annual dividend of 4 per cent. and the Union National Bank a dividend of 3 per cent.

Lynchburg, Va. — The Commercial Bank of Lynchburg has declared a semi-annual dividend of 4 per cent., the People's National Bank a quarterly dividend of 2½ per cent., the National Exchange Bank a dividend of 5 per cent., and the Lynchburg National Bank a semi-annual dividend of 5 per cent.

New Orleans, La.—The American National Bank has declared a dividend of 3 per cent., the New Orleans & Carrollton Railroad Co. a quarterly dividend of $1.50 a share, and the Eureka Homestead Society a dividend of 5 per cent.

New Orleans, La.—The Germania Savings Bank has declared a semi-annual dividend of $4 per share, the New Orleans Canal & Banking Co. a dividend of $4 per share, the Hibernia National Bank a dividend of 5 per cent., the Mutual National Bank a dividend of $3 a share, the People's Bank a semi-annual dividend of 4 per cent., the State National Bank a semi-annual dividend of 4 per cent., the Germania National Bank a semi-annual dividend of 5 per cent., the Whitney National Bank a dividend of 4 per cent., the Union National Bank a semi-annual dividend of $4 per share, the Louisiana National Bank a semi-annual dividend of $4 a share, the Bank of Commerce a semi-annual dividend of 3 per cent., the Canal & Claiborne Railroad a dividend of $1 a share and the Rosetta Gravel, Paving & Improvement Co. a semi-annual dividend of $5 per share.

Portsmouth, Va.—The First United States Excelsior Building Association has been incorporated with a capital stock of $500,000.

Richmond, Va.—The Old Dominion Steamship Co. has declared a semi-annual dividend of 3 per cent., the City Bank of Richmond a semi-annual dividend of 3 per cent., the Citizens' Bank a semi-annual dividend of 3 per cent., the Guarantee Building, Loan & Trust Co. a semi-annual dividend of 5 per cent., the Planters' National Bank a dividend of 3 per cent., the Home Building Co. a semi-annual dividend of 4 per cent., the Union Bank of Richmond a semi-annual dividend of 8 per cent., and the State Bank of Virginia a semi-annual dividend of 3½ per cent.

Roanoke, Va.—The First National Bank has declared a semi-annual dividend of 6 per cent., the National Exchange Bank a semi-annual dividend of 3 per cent., the Commercial National Bank a semi-annual dividend of 3 per cent., the Roanoke Trust, Loan & Safe Deposit Co. a semi-annual dividend of 5 per cent., the Fidelity Loan & Trust Co. a semi-annual dividend of 4 per cent., the Traders' Loan, Trust & Deposit Co. a semi-annual dividend of 5 per cent., and the Roanoke Savings Bank a semi-annual dividend of 3 per cent.

Savannah, Ga.—The Southern Bank of Georgia has declared a semi-annual dividend of 5 per cent. and the Merchants' National Bank a semi-annual dividend of $3.50 a share.

Staunton, Va.—The Augusta Perpetual Building & Loan Co. has declared a semi-annual dividend of $4 per share.

TRADE NOTES.

The Almy Water Tube Boiler Co., Providence, R. I., have recently shipped their product to several Baltimore parties.

The Boston Belting Co., at its annual meeting held a few days ago, re-elected the old board of officers and increased its capital stock.

A. B. Pitkin & Co., of Providence, R. I., have established a branch office and salesroom in Boston for the sale of their machinery specialties.

The D. F. Morgan Boiler Co., of Akron, Ohio, has established an Eastern office at No. 48 Centre street, New York, which will be under the personal management of Mr. Morgan.

The Shipman Engine Co., Boston, reports a large number of sales of automatic steam engines, the orders coming from all parts of the United States as well as from foreign countries.

L. Godfrey, of Providence, R. I., has the contract for the equipment of the new yarn mill of Mark Morgan, at Laurel Hill, N. C. Several carloads of carding and spinning machines have been sent the past week to be followed by other shipments at once.

The Becker Manufacturing Co., of Fitchburg, Mass., is just completing a new milling machine embodying several new features that make it the superior of the well-known product of this concern for some years past.

The contract for covering the Texas State building at the World's Fair was awarded to Fred. W. Bishoff & Co., of Chicago. It will be a metal roof in imitation of Spanish tiling. This firm used the same material in covering the New York State building and the fisheries building.

The directors of the Chicago Rawhide Co. will hold their annual meeting the first Saturday in January. Manager Pieble will have some good news for the stockholders in regard to the growth of their foreign trade and the success of their rawhide pinion, which solves the problem of noiseless motors on street cars.

The New York *Evening Post* says: "The Hon. T. H. Anderson, United States minister to Bolivia, says, in a recent letter to the Department of State, Washington, D. C., that the industry of working wood by machinery is a growing one in South America, and the trade for all classes of woodworking machinery is given to the United States. And he further says that the Egan Co., of Cincinnati, Ohio, controls over 50 per cent. of this trade in this class of goods, simply as the result of their enterprise in successfully placing their superior goods before the South American buyers."

The machinery department at the World's Fair at Chicago will be an interesting one to mechanics. The Egan Co., of Cincinnati, the well-known builders of woodworking machinery, will make one of the finest displays ever made in that line. Some novel time and labor-saving machines will be shown in practical operation.

The Scranton Traction Co., of Scranton, Pa., has placed the contract for the buildings of its new plant with the Berlin Iron Bridge Co., of East Berlin, Conn. The boiler and engine-room will be 65 feet wide by 200 feet long, with a machine shop and car shed 93 feet wide by 225 feet long. The entire plant will be fire-proof, of the well-known Berlin construction.

The patent draw lug and bolts manufactured by the Winship Manufacturing Co., of Racine, Wis., are being adopted by nearly all the manufacturers of tanks because of their strength and durability over riveted bands. This old and well-known concern also manufacture the Eureka sand-papering machines, besides a line of agricultural tools and implements.

A franchise has been granted by the city of Guthrie, Oklahoma, for an electric street railway, and a company has been formed to carry out the work. It is intended to commence work at once on the construction of three miles of road, and to extend it from time to time as the needs of the town require. Edward Morton & Co., 53 Broadway, New York, have the matter in hand.

Josiah Pierce, Jr., civil engineer, has opened a branch office at 1324 F street, Washington, D. C., in addition to his main office, room 10, southeast corner Calvert & Baltimore streets, Baltimore, Md. Mr. Pierce is prepared to organize and superintend all kinds of topographic surveys, laying out towns and suburban property, landscape engineering, installation of electric plants for light or power, railroad surveys, construction and other engineering work.

The "Providence" patent steam capstans, steam gypseys and dock steam capstans, manufactured by the American Ship Windlass Co., of Providence, R. I., are adaptable for a great variety of uses, and save a larger percentage of time and expense than almost any of the labor-saving devices of the day. In September, 1881, William Sellers & Co., of Philadelphia, put one in their yard for hauling cars loaded with pig iron, coal and molding sand. After using same for over three years they gave the American Ship Windlass Co. the following certificate: "In reply to your favor of the 13th inst., may say that we have found the steam capstan furnished by you to be exceedingly useful and convenient for the purpose intended."

TRADE LITERATURE.

We are in receipt of a calendar for 1893 issued by F. E. Myers & Bro., of Ashland, Ohio, manufacturers of an extensive line of pumps, hay tools, etc., for farmers' use. The calendar is illustrated with numerous cuts of the various implements manufactured.

The Sims Manufacturing Co., of Newark, Ohio, has issued a new catalogue and price-list of Sims's patent eave trough. This trough is very convenient to put in place, making water-tight joints without the use of solder or rivets. The catalogue describes these various advantages and illustrates them clearly.

The Cleveland Twist Drill Co., of Cleveland, Ohio, has issued a very neat and comprehensive catalogue for 1893. Several lists of tools in that line which have never before been published are shown, and also a much longer list of sizes of drills than usually found. One interesting feature is the list of millimetre sizes, with a table of corresponding sizes in thousanths of an inch, an extremely useful thing for manufacturers desiring drills intermediate between the usual sixty-fourth sizes. The catalogue is a most complete one for reference and tasty in appearance.

The William A. Harris Steam Engine Co., of Providence, R. I., has issued an excellent pamphlet describing the Harris-Corliss engine. Each detail of the engine is considered and its purpose explained in a comprehensive manner. Condensing and coupled engines, with the main features of advantage in each, are treated upon. Non-condensing, condensing, cross and tandem compound engines and triple expansion engines are illustrated and described. A chapter on foundations is interesting, and a table of standard sizes, floor space, etc., will be useful to every user of power. A list of over seven hundred establishments where these engines are in use is given.

J. W. Penfield & Son, of Willoughby, Ohio, have issued a condensed catalogue of their brickmaking machinery which is a model of neatness and convenience. The line of catalogues issued by this firm relative to the various classes of machines which they manufacture are well known, and this little one, combining many of the principal features of all the others, is a most convenient addition to the list. The catalogue is 3½x6 inches, containing thirty-one pages. Numerous illustrations are given of brickmaking and clayworking machinery, and on each page appears an illustration in red of some special brick shapes. It is indeed the "Busy Brickmaker's Catalogue," as the title announces, and every brickmaker needs one.

OPPORTUNITIES FOR INVESTMENT

We shall be pleased to answer communications and give information concerning the following opportunities for investment. Address all correspondence to the Manufacturers' Record, Baltimore, Md., and be particular to give the number of the advertisement to which you refer.

No. 6—PHOSPHATE LAND near Eureka, Fla., in the phosphate belt. It is heavily timbered with long-leaf pine; also a small tract near Fort Meade, Fla. Several small tracts in Marion, Orange, Lake, Polk, Pasco and Putnam counties, Fla., suitable for orange and vegetable growing.

No. 7.—A MANUFACTURING COMPANY in Texas desires to place $28,000 ten-year 8 per cent. mortgage bonds, the total issue being $60,000, of which $32,000 has already been sold. The proceeds are to be used for final payments on machinery and for working capital. The bonds are secured by the entire property of the company, consisting of factory building, machinery and real estate, all of which has a clear title and is free of any incumbrance.

No. 8—PHOSPHATE LAND.—600 acres pebble phosphate land within one and one-half miles of two important and competitive railroads. Extensive deposits in sand and marl matrix from two to fifteen feet deep, and ranging from 30 to 80 per cent. pebble. Analyses show from 60 to 80 per cent. phosphate of lime.

No. 9.—A tract of land located in the suburbs of Macon, Ga., and admirably adapted to manufacturing purposes, is offered for sale at reasonable price. The property is at the junction of three railroad lines, has abundant water supply, labor can be obtained cheaply, and all conditions requisite for industrial enterprises are present.

No. 10.—About 10,000 acres of mineral and timber land in one tract in North Carolina can be purchased cheap. The minerals are copper, iron, silver and nickel.

No. 11.—A tract of about 10,000 acres of timber land near Bristol, Tenn. Contains also several large deposits of iron ore which will soon be accessible by railroads now under construction.

No. 12.—About 17,000 acres of coal and timber land in Scott and Wise counties, Virginia, near to both the Norfolk & Western and South Atlantic & Ohio Railroads.

No. 13.—A copper ore property is for sale in North Carolina. There is an extensive deposit of ore upon which some development has been done with results that indicate the existence of a valuable property.

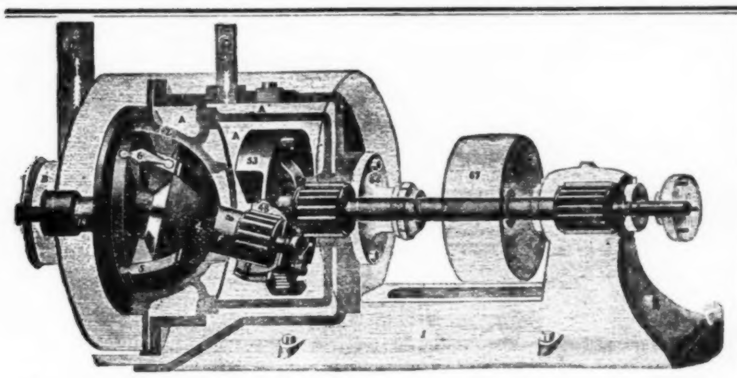
No. 14.—A woodworking concern in Virginia, engaged in the manufacture of interior woodwork, with a well-established trade and an abundance of orders in hand, desires to secure $10,000 of additional capital to increase the plant and enable more advantageous purchases of material. It is desired that the investor of additional capital in this company shall assume its financial management. The business is well organized, has good plant, and is making money. The addition of more capital will greatly increase its facilities and earning power.

No. 15.—A fine tract of timber property in North Carolina, aggregating about 1,200 acres and covered with hardwoods and pine, can be secured at a reasonable figure. About one-quarter of the property is cleared and is admirable farming land. There are buildings upon the tract which could be utilized to good advantage for manufacturing purposes. There is a railroad station within one mile of this tract.

No. 16.—A valuable coal property in Tennessee, which is well under development, shipping coal regularly and earning a handsome return upon its value, can be purchased at a low figure. The property is sure to earn, under proper management, 10 to 15 per cent. per annum on the price that is asked for it. The property has been in operation about two years, and the mines are well established, and the shipping facilities are excellent.

No. 17.—We have knowledge of a large and very valuable granite property in Virginia, which is available for development and which ought to prove a very good investment. The property lies two and one-half miles from the Norfolk & Western Railroad, and very favorable arrangements can be made for the construction of a side track to the quarry. The property has never been developed, but could be opened at once at small expense. The granite is of excellent quality, admirably suited for building purposes. The color ranges from pale pink to purple, and the stone is susceptible of a high polish. There are quarries not far distant upon the same vein which are furnishing stone that has a wide reputation.

TABLE OF CONTENTS.



The above illustration shows the working parts of the only steam engine worthy of being called **high speed.** It is known as the

American High Speed Engine.

It has no competitors.
Runs easily and smoothly

1000 REVOLUTIONS and more, in small sizes, and proportionally fast in larger sizes.

Unsurpassed for Economy

and close automatic government.

DYNAMOS,
CIRCULAR SAWS,
FANS, BLOWERS,
THRESHING MACHINES,

etc., run by **direct coupling** without belts.

It's the acme of simplicity. There's great saving in foundations, little or none being required, also in oil consumed and attention required.

For high speed machinery it saves many shafts, counter-shafts, hangers, pulleys, belts, and great loss of power incidental to their use. Speed readily reduced for slow running machinery.

This Engine is

NOT A "ROTARY,"

as its piston does not revolve; runs standing on either end, or placed horizontally, equally well; is *wholly* self-contained. Takes up but little room.

MARINE TYPE

is very light, and has simple, effective reversing mechanism. Especially well adapted for high speed Launches and Yachts. Its position in bottom of boat is most favorable for ballast.

Engines of 2 to 200 Horse Power can be furnished on short notice.

☞ If you want to know more, send address and 10 cents in stamps for Large Illustrated Catalogue, to

AMERICAN ENGINE CO.,
BOUND BROOK, N. J.
No. 32 Raritan Avenue.

C. O. Godfrey. A. W. Train.

GODFREY & TRAIN,

Investment Securities, Stocks, Bonds, Etc.

$500,000 Good City and County Bonds Wanted.

40 Wall Street, NEW YORK.

Southern Investments.

F. B. S. MORGAN,
29 Euclid Avenue,
CLEVELAND, OHIO.

STOCKS, BONDS

and Investment Securities.

GOOD CITY and COUNTY BONDS WANTED

The Organizing and Promoting of Stock Companies given special attention.

INVESTMENTS IN THE SOUTH

Exchange Banking & Trust Co.

CHARLESTON, S. C.

Paid up Capital, $100,000. Authorized Capital, $1,000,000.

Transacts a General Banking and Trust Business. Savings Department. Interest Allowed on Deposits.

Investments made (at usual rate of commission) in safe and reliable interest-paying Southern securities, and 1st mortgage loans on improved city and town real estate. Correspondence solicited as to all Southern investments. Being within easy reach of all parts of the South, thorough and careful investigation can be made of intended investments or purchases.

Officers: Geo. B. Edwards, president; P. N. Pickens, cashier; R. E. Muckenfuss, secretary and treasurer; J. Lamb Perry, solicitor; Smythe & Lee, general counsel.

DIRECTORS:
A. S. J. PERRY, of Johnston, Crews & Co., wholesale dry goods.
WILLIAM M. BIRD, of Wm. M. Bird & Co., wholesale paints and oils.
JAMES ALLAN, of James Allan & Co., jewelers.
J. H. F. KOENIG, with Knoop, Frerichs & Co., cotton exporters.
GEO. B. EDWARDS, Prest. Elec. Lt. & Power Co.

JOHN L. WILLIAMS & SON, BANKERS,
RICHMOND, VA.

Our Manual of Investments for 1890, the largest work of the kind published by any banking house in America, (406 pages, octavo, cloth,) may be had without charge by clients, correspondents and those expecting to do business with us; by others at $2 per copy.

THOMAS P. WORRALL,

715 DREXEL BUILDING,

PHILADELPHIA, PA.

Stocks, Bonds and Loans.
Construction and Equipment.
Street Railroads and Manufactories.
Municipal, Gas and Water Bonds.

EDWARD MORTON & CO.

Investment Securities,

53 Broadway,
NEW YORK.

Railroad Finance a Specialty.
Stocks, Bonds and Loans.
Construction Material and Equipment.
Street Railroads.
Municipal Bonds and Industrials.

50 PER CENT. PROFIT.

Parties with Capital may find an unequalled opportunity for investment in extending an original and most paying patent, by addressing

T. H. SAMPSON,
NEW ORLEANS, LA.

HELP WANTED.

WANTED—A competent man for Door, Sash and Blind Work; no others need apply. Address JOHN P. COFFIN, Box 33, Florence, S C. J27

EXPERIENCED makers and managers of works manufacturing rope and cordage please communicate with J. D. KASE, Greensboro, N. C., if desiring a position. j20

WANTED—A competent SALESMAN to represent an old established Supply House in the Southern States. Only those familiar with the cotton and woolen trade need apply. Address "SUPPLIES," MANUFACTURERS' RECORD. J13

WANTED—FOREMAN for Architectural and Ornamental Iron Works. Must have experience, recommendations, experience in handling men, be systematic and accurate. State salary and address P. O. BOX No. 182, Roanoke, Va. J6

SITUATIONS WANTED.

WANTED—By a young man of twenty-four, situation with Boiler or Engine Manufacturer as Shipping Clerk or General Correspondent. Eight years' experience and A1 references. Address "D.," P. O. Box 285, Springfield, Ohio. J27

WANTED—A ROLLER COVERER of fifteen years' experience in New England, (now in Maryland) would like a situation in a mill where rollers are covered on premises. Can furnish reference from last employer. Address "ROLLER COVERER," care MANUFACTURERS' RECORD J27

WANTED—Position as Traveling Salesman or Agent for manufacturers or jobbers in machinery. Extended acquaintance in Georgia and Florida. Experience in machinery. Address "GEORGIA," MANUFACTURERS' RECORD. J27

WANTED—By a man of experience a position as Electric Engineer. Address T. H. MEBANE, JR., South Boston, Va. J27

WANTED.—A Cotton Mill Manager of long experience from central New York State, wants a situation in the South. Address "J. H. D.," care MANUFACTURERS' RECORD. J27

WANTED—Englishman recently arrived here seeks position as Traveling Salesman in any line. High-class abilities, push, tact and good presence. Address "S. P.," care MANUFACTURERS' RECORD. J27

WANTED.—Young man interested in electrical work desires a position with some electrical manufacturing company, has some knowledge of the business. Can give references. Address E. S. MOOSER, Charleston, S. C. J20

WANTED—Position as manager of a general store for either private parties or a company. Can furnish best of references. Address O. CLAYTON, Harford Co., Md. J20

WANTED—Position to represent manufacturer in Southern States. Long residence; know engineers and contractors; experienced in business. Good references. Address "AGENT," care MANUFACTURERS' RECORD. J20

WANTED—Situation as Coke Boss, with six years' experience and can handle any kind of Coal. Best of references. Address JOSEPH CUMMINGS, Hartcranft, Tenn. J13

WANTED—Position in Ice Manufactory as Engineer or office position. Address "B. A. F.," P. O. Box 563, Asheville, N. C. J13

WANTED—Situation as Electrician or Electrical Draughtsman, by a man well up in car motor work and all branches of electricity. Can furnish best references. Address "S. E. A.," care MANUFACTURERS' RECORD. J13

WANTED—Position with Manufacturing Concern as Manager or Assistant Manager. Ten years' experience in Financiering and Book-keeping. Experienced in Sash, Door and Blind Manufacturing Business. Twenty-nine years old and married. Can offer the best of references. Address "H.," care MANUFACTURERS' RECORD. J13

WANTED—A young man experienced, wishes a position with an Industrial Journal, or on some paper devoting space to industrial progress, as editor, reporter or solicitor. Good references. Address "P. A.," care MANUFACTURERS' RECORD. J13

WANTED—FOUNDRY FOREMAN FOR ENGINE AND GENERAL WORK. One who is competent to take full charge of the foundry and handle the men to the best advantage. Foundry is making both large and small castings for engines, special machinery, hay press work, etc. None but first-class sober men need answer. State references and last place employed. Address "A 25," care 535 The Rookery, Chicago. J6

WANTED TRAVELING SALESMAN who is thoroughly posted on Automatic Engines. Must be a hustler. Good position for the right party. State references and answer quick. Address "A 25," care 535 The Rookery, Chicago. J6

WANTED—A PRACTICAL FOREMAN for Splint Coal Mine in W. Va., about to introduce electrical coal cutting machinery. Must be a thorough miner and understand the inside working. Address "WAYNE," care of MANUFACTURERS' RECORD. J6

WANTED—Position as Draughtsman by a sober, industrious, and reliable young man, graduate of a Technical School of high standing. Also familiar with office work. References furnished. Address "P. B." care of MANUFACTURERS' RECORD J6.

WANTED.—Engineer & Roadmaster (age 29) desires position either on railroad construction or maintenance. Nine years varied experience. Address "W. E." care of MANUFACTURERS' RECORD. J6

WANTED—Young man (married) desires position as time-keeper or foreman on construction work—railroad preferred—in south of United States or Mexico. Can speak Spanish, and have had 4 years experience in United States and Central America. Can give A1 references. Address H., care MANUFACTURERS' RECORD. J6

Subscribe to the MANUFACTURERS' RECORD
Price $4.00 a year, or six months for $2.00.

WANTED.—GENTLEMAN, WITH ABOUT $10,000, TO TAKE INTEREST IN GOING MACHINE BUSINESS IN BALTIMORE. ESTABLISHED SEVEN YEARS. CONSISTS OF GENERAL MANUFACTURING MILL AND MARINE WORK. ADDRESS "ARTHUR STEUART," 213 E. GERMAN STREET, BALTIMORE, MD.

WANTED—FOUNDRYMEN TO GIVE ALUMINUM ALLOY COMPOSITE a TRIAL. Two per cent. in ordinary Cupola will give you soft, sound and solid semi-wrought iron castings. Price $5.00 per 100 pounds f. o. b.

Book of information, with Government report and other indisputable testimonials for foundrymen free.

THE HARTSFELD FURNACE & REFINING CO.
Newport, Kentucky.

WANTED.

FOREMAN in Woodworking Establishment

who thoroughly understands his business, and can take a third or half interest. Apply to

IRWIN TUCKER,
NEWPORT NEWS, VA.

SOLICITORS OF PATENTS.

For the convenience of a large number of readers of the MANUFACTURERS' RECORD who require the services of reliable Patent Attorneys, the appended directory is given. Those of our readers who may correspond with the Attorneys here mentioned, will confer a favor upon both advertiser and publisher by mentioning the MANUFACTURERS' RECORD.

PATENTS FOR INVENTORS. 40 PAGE BOOK FREE. Address W. T. FITZ GERALD, Attorney-at-Law, Washington, D. C.

GLASCOCK & CO., Washington, D. C.

GEORGE E. LEMON, Washington, D. C.

PATRICK O'FARRELL, Solicitor of Patents. Inventors Guide sent free. Wash., D.C.

S. BRASHEARS—10 years Examiner in U. S. Patent Office, 615 7th St., N.W. Advice free.

GEO. P. WHITTLESEY, Patent Lawyer and Solicitor of Patents, Washington, D. C.

DU BOIS & DU BOIS, Wash., D. C. Terms unsurpassed. Send for illustrated hand book.

KNIGHT BROS.—Patents for Electrical and Mechanical Inventions. 631–633 F Street, Washington, D C. Established 1843.

PATENTS OBTAINED—OUR CHARGE $25. Send for our "SHORT TALK ON PATENTS." WALTER DONALDSON & CO., Washington, D C.

PATENTS

CHAMPION & CHAMPION,

PATENTS AND PATENT CAUSES.

Patents, Designs and Trade-Marks procured. Searches made. Opinions rendered. Interferences conducted, etc. Specialties—INTERFERENCES AND METALLURGICAL INVENTIONS. Correspondence invited.

Pacific Building, Washington, D. C.

PARTIES HAVING SCRAP STEEL TO SELL for Open Hearth Melting Purposes, please write to us. J. H. RICHARDSON & CO., 708 Pennsylvania avenue, Pittsburgh, Pa.

Important to All Corporations.

Every Incorporated Company should USE KAUFFMAN'S Copyrighted Forms of Improved Record Book, Transfer Book, Stock Register, Stock Ledger and other valuable Books. Write for Descriptive Circular. Address

CORPORATION BOOK CO.
Room 85, Lucas Bldg., 1326 Chestnut St., Philadelphia, Pa.

J. M. Sauder & Co.
MANUFACTURERS AND DEALERS
SCHOOL FURNITURE & SUPPLIES. CHURCH SEATING. OPERA CHAIRS. OFFICE DESKS.
ROANOKE, VIRGINIA.

IF YOU WANT

A NIAGARA DYNAMO OR MOTOR, or

if you are a dealer and want an Agency, send for our Catalogue and Price List,

LOVELL MFG. CO., LTD, ERIE, PA

The BOOMER & BOSCHERT
KNUCKLE JOINT
PRESS

FOR BALING
Cloth, Paper, Yarn, &c.
Or for any other purpose requiring great pressure.
BOOMER & BOSCHERT PRESS CO.
329 W. Water St. Syracuse, N. Y.

PROPOSALS.

PROPOSALS FOR WATER WORKS AT WILSON, N. C. Proposals will be received by the Board of Commissioners of the Town of Wilson, N. C., until 12 M. January 25th, 1893, for the construction of a system of water works complete, including pipe, pipe-laying, stand-pipe, pumps, boilers, pumping station, &c. The works to be paid for with Town Bonds, twenty years, 5 per cent. Amount of appropriation $60,000. Plans and specifications will be on file and can be seen at the Town Hall, and appointments may be made with the Engineer to meet prospective bidders at Wilson, N. C., after January 8th, 1893. J. L. LUDLOW, Engineer, Winston, N. C. DUANE HERRING, Chairman Water Works Committee.

UNITED STATES ENGINEER OFFICE, NEWPORT, R. I., November 26, 1892. SEALED PROPOSALS, in triplicate, for dredging in Newport Harbor, R. I., will be received at this office until 12 M., noon, on the 10th day of January, 1893, and then opened. The attention of bidders is invited to the Acts of Congress approved February 26th, 1885, and February 23d, 1887, Vol. 23, page 332, and Vol. 24, page 414, Statutes at Large, and the Act of August 1, 1892, Sections 1 and 2 (Public No. 193). The United States reserves the right to reject any or all proposals and to waive any informalities. Full information furnished on application. W. H. BIXBY, Captain Corps of Engineers, U. S. Army.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., Jan. 3, 1893. SEALED PROPOSALS will be received at this office until 2 o'clock P. M. on the 31st day of January, 1893, and opened immediately thereafter, for all the labor and materials required for the Cut Stone Work and Brick Work, Iron and Wood Floor, Ceiling and Roof Construction and Roof Covering for the Superstructure of the U. S. Postoffice Building at Danville, Ill., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the superintendent at Danville, Ill. Each bid must be accompanied by a certified check for a sum not less than 2 per cent of the amount of proposal. The right is reserved to reject any or all bids, and to waive any defect or informality in any bid if it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidder. Proposals must be enclosed in envelopes sealed and marked "Proposal for the Cut Stone Work and Brick Work, Iron and Wood Floor, Ceiling and Roof Construction and Roof Covering for the Superstructure of the U. S. Postoffice Building at Danville, Ill.," and addressed to W. J. EDBROOKE, Supervising Architect.

Will You Build A Residence, Store, Bank, Church or Factory?

Please allow us to estimate on your requirements. Building Material, Metal, Wood, Clay and Stone. Machinery to work Metal, Wood, Clay and Stone.

THE REDFIELD COMPANY,

Galveston. San Antonio. New Orleans. Little Rock.

FERTILIZERS. CHEMICALS.

Pure Ground Bone, Sulphate of Ammonia, Super and Acid Phosphates.

STANDARD GUANO & CHEMICAL MFG. CO.

14 Union Street, New Orleans, La.

BUYERS OF COTTON SEED.

KINGAN & CO.

PORK PACKERS

RICHMOND, VA.

MANUFACTURERS OF

PURE LARD and PURE LARD OIL.

JORY & CO.

S. E. Cor. Baltimore & Light Sts., BALTIMORE, MD.

Brass and Bevelled Plate Glass **SIGNS** Engraving, Carving.

EMBOSSED GILDING ON GLASS.

Newest Designs, Finest Work, Lowest Prices.

DESIRABLE OFFICES

Can now be rented in the new

MANUFACTURERS' RECORD BUILDING,

BALTIMORE, MD.

This seven story building is located at the corner of North and Lexington streets, within a few yards of the Postoffice and City Hall and near all the Law Courts. The offices are large, light and always cool in summer. The building is elegantly finished in oak, is heated by steam and lighted by gas and electricity. There are no more desirable offices in Baltimore, and the rentals are low.

For particulars address

THE MANUFACTURERS' RECORD

BALTIMORE, MD.

FOR SALE.

Poplar, Ash, Sycamore, Red Gum, White, Red Post Oak and Hickory; cut to order; long clear stock.

SAM. L. BROOKS, Washington, Ga.

A LARGE PLACER GOLD MINE in Burke Co., N. C., U. S. A., For Sale or Lease. For printed report, etc., apply to E. E. BOULDIN, Danville, Virginia.

BRICK! BRICK! BRICK!

We wish to sell half interest in our brick-making business, and wish to correspond with practical brick makers only, who have some capital. We can show them the very best opening in the United States.

THE J. R. TYSEN CO., Jacksonville, Fla.

For Sale at a Very Low Price.

TWO COTTON COMPRESSES.

One a 90 Morse and the other a one thousand ton Taylor; both in A1 condition. Address

WILL W. BIERCE,

MONTGOMERY, ALA.

FOR SALE CHEAP.

LARGE BOILER and PLATE BENDING ROLLS

13 feet between housing. Rolls 15 inches diameter, with reversible Engine. Will roll up to 1¼-inch plate. Built by Bement & Co., and are equal to new.

FRANK TOOMEY,

131 N. 3d Street, PHILADELPHIA, PA.

NEW AND SECOND-HAND

MACHINERY

Bought, Sold and Exchanged.

COTTON, WOOLEN AND KNITTING MACHINERY.

Jewelers Tools, Engines and Boilers.

F. H. POTTER,

18 Custom House St., PROVIDENCE, R. I.

McCLURE & MAXWELL,

Real Estate and Mineral Lands,

KNOXVILLE, TENN.

WANT TO SELL

75,000 Acres Long Leaf Yellow Pine. Estimated 5,000 feet per acre, 60 cents; in fee.
110,000 Acres Cypress and Pine. Estimated 7,500 feet, per acre, $2; in fee.
70,000 Acres Poplar and Hardwood. Estimated 20,000 feet, per acre $4; in fee.
100,000 Acres Coal and Timber Lands (Hardwood). Estimated 10,000 feet, per acre, 20 feet of Coal under entire property, $3; in fee. All on Navigable Water or Railroad.

FOR SALE.

A Valuable Property

Bearing Tin, Gold and various other Minerals. The Tin and Gold Veins are pronounced. By assay they have yielded 2.58 per cent. of Tin and 27 per cent. of Gold to the ton of Ore. Plenty of Timber, near railroad. The expanse of Tin Ore is large, about 5,000 acres. By development from the geological formation this property may be the greatest Tin bearing Property of the United States; it points that way, as only partial development of one of the veins has been attempted, and you can start from the surface and go to work. The formation bearing Tin is identical to that of other tin producing countries.

A. S. DAVIS,

PORT DEPOSIT, MD.

NOTICE TO STEAM USERS.

Wilcox Boiler Cement stops leaks in boilers and steam pipes. Prices raised July 1, as follows: Half-pound tins 75 cents; one pound $1.25, and five pound $5.00, postage or express prepaid. The usual liberal discounts to agents. Sole manufacturers,

SALEM BATTERY CO., SALEM, VA.

THOS. J. SHRYOCK & CO.

WHOLESALE

Lumber and Commission Merchants,

YELLOW PINE and HARDWOOD,

Shryock's Wharf, Baltimore, Md.

Correspondence Solicited.

HOPKINS, DWIGHT & CO.

COTTON, COTTONSEED OIL

AND

SOUTHERN PRODUCE

COMMISSION MERCHANTS

Room 52, Cotton Exchange Bldg.,

NEW YORK.

Gustavus C. Hopkins. Lucius Hopkins Smith.
Charles D. Miller. Samuel Hopkins.

RICH GOLD MINES.

I have in my hands two gold mines, easily accessible, in the United States of Colombia, South America, with ore of the most extraordinary richness, some of which carries as much as three thousand dollars ($3,000) in gold to the ton, and all being of high grade.

These mines are of ancient discovery and were worked with great profit for a long period, being only abandoned on account of political troubles before and after the war of liberation.

These troubles have been happily settled for over a quarter of a century, and the Colombian Republic is based upon the theory of and similar to our own government, with civil and religious liberty and equal rights to all, and is as stable as any government in the world.

These mines are so richly endowed with auriferous material, from the easily-worked sand, gravel, and dirt, (carrying virgin dust and nuggets), to the fissure veins of free milling quartz, that when properly equipped a profit of ten thousand dollars ($10,000) a day or over three million dollars ($3,000,000) annually is a very low and conservative estimate.

There is an abundance of timber and unfailing water power, with a genial and healthy climate.

It is proposed to organize this property on a basis of five million dollars ($5,000,000), upon which there can be dividends earned of 60 per cent. or more, and the parties furnishing the original capital in small or large sums for this organization, which will be about twenty five thousand dollars ($25,000), will be let in on a basis of two and a half cents (2½c.) on the dollar, with the privilege of purchasing pro rata at five cents (5c.) on the dollar a sufficient amount to give them a controlling interest if they so desire.

There is also the right of prior possession to double the amount of contiguous land.

The poverty of the owners of this property, being land poor, is the reason of this unusual offer, and they will retain as much of the property as they possibly can, parting with only what is necessary in order to work it.

Situated in the jurisdiction of Simiti, District of Guamaco, Province of Mompos, State of Bolivar.

An experienced miner, who has been over and thoroughly examined the property, says, "there is more gold there than in the entire State of California," while another says "the evidence of mineral wealth was so great that I almost doubted my own sanity, and were I to tell California and Colorado miners even one-tenth of what I actually saw, I would be branded as a foolish liar or raving maniac."

L. BRECKINRIDGE CABELL,

Room 17, 53 Broadway, New York.

FLORIDA LANDS!

WEALTH.

Phosphate,

Timber,

Sugar

For Sale in large tracts. Write to

SOLON B. TURMAN,

TAMPA, FLA.

CORLISS and other Automatic ENGINES, BOILERS, PUMPS, Etc., in first-class condition for immediate delivery. Send for catalogue.

26x48 Corliss Engine. 23x36 Corliss Engine.
20x48 Corliss Engine. 14x42 Corliss Engine.
30x72 Corliss Engine.
16x32 Wright Engine. 20x48 Wright Engine.
11x20 Buckeye Engine.
14x30 Porter-Allen Engine.
12x20 Porter-Allen Engine.
16x48 Slide Valve Engine.
13x24 Slide Valve Engine.
11x24 Slide Valve Engine.
8x 8 Slide Valve Engine.

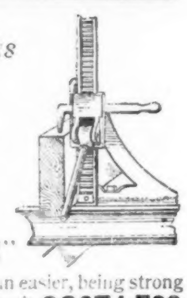
A stock of Horizontal and Vertical Tubular Boilers, Bogardus Mill, Simpson Crusher, 30-in. Burr Stone Mill.

Woodward Double Fire Pump, almost new, 1,000 gallons capacity.
Niagara Pressure Pump, 12x6x12.
Blake Pressure Pump, 10x6x12.
Guild & Garrison Pump, No. 2.
Cameron Low-Service Pump, 350 gallons.
Deep Well Steam Pump.
Three Ingersoll Rock Drills.
One 8 and one 9 ft. Fan Blower.
Corliss Jet Condenser, 600 horse-power.
Two Buckley Condensers.

Emery Grinder. Boring Bar. 2 Platform Scales. Boiler-Iron Tanks, 800 and 200 gallons capacity. Automatic Saw Dust Feeder. 100 feet 7-inch Wrought Iron Pipe.

GEO. M. CLAPP, 74 Cortland St., New York.

Steel Saw Mills



Steel *Head Blocks*

Steel *Set Works*

Steel *Set Shaft*

Steel *"Out & Out"*

Being compact run easier, being strong last longer, being simple **COST LESS MONEY** than any Saw Mill in the Southern States.

Manly Machine Co.,

FOUNDERS AND MACHINISTS, DALTON, GA.

FOR SALE.

The half interest in PLANING MILL to experienced man for $1,000 or will sell the whole property. Location first-class.

FOR PARTICULARS ADDRESS

G. E. OTIS,

MANSFIELD, ARK.

SOMETHING YOU WANT!

A Saw and Planing Mill!

SITUATED IN FLORIDA,

On the J. T. & K. W. R. R., and St. John's River.

Why We Sell.

Because absorbed in another line of business, and not wishing "too many irons in the fire," we have determined to put this valuable property into the market. The outfit consists of

1 Mill Carriage, 3 Saws.
1 Shingle Machine, 2 Saws.
1 Bevel Rip Saw, 4 Saws.
1 Gig Saw, 6 Saws.
1 Table Cut Off Saw, 2 Saws.
1 Endless Band Saw Resaw, 7 Saws.
1 22 in. Planer and Double Surfacer.
1 15 in. Planer and Double Surfacer.
1 Hand Planer.
1 Tenoning Machine.
1 Mortising and Boring Machine.
1 Moulder.
1 Lathe and Tools.
1 Drill Press.
1 Lath Machine.
1 Bolter Machine.
2 Automatic Emery Wheels.
1 Foot Mortiser.
1 Foot Rip Saw.
1 Engine.
3 Steel Boilers.

All Belts in good condition. Quantities of small tools. This is a splendid opportunity for a profitable investment.

For further particulars address

Bordens' Clay County Woodworking Co.

GREEN COVE SPRINGS, FLA.

REMOVAL.

For Sale. A Rare Chance.

The Real Estate and Buildings of the Ft. Scott Foundry and Machine Works Co., at Ft. Scott, Kansas.

The Most Successful Foundry and Machine Shop Plant and Best Location in the West.

The company owning and operating this plant continuously and very profitably for the past fifteen years, having brought out some patented specialties, that are sold mostly in the Eastern States and also for export, were compelled, on this account, to locate farther east, and now have under construction at Chicago Heights, Cook County, Illinois, with largely increased capacity, the buildings for their new plant, and will remove all the machinery in their Ft. Scott Works to Chicago about the 1st of December next.

The buildings are practically new, having been erected in 1886, from the most modern and approved plans of foundry and machine buildings, are of ample dimensions for large capacity, well lighted, arranged for traveling cranes throughout; location the best in the city; on about thirteen acres of high ground immediately within the junction, and connected by switches with all the systems of railways entering Ft. Scott.

Ft. Scott has long been celebrated for cheap fuel, cheap living and a cheap and very desirable class of both skilled and common labor.

The business was established here twenty-three years ago, and the works have never been closed. A large general foundry and machine shop trade comes to this city almost daily from half a dozen States and territories; is in close proximity to the great coal, zinc and lead regions of Missouri, Kansas and Indian Territory.

A Rare Opportunity for a Few Practical Men to Make a Fortune.

The property will be sold at a great bargain, and upon easy terms.

Photos of the works, together with sizes and plans of buildings and full particulars will be forwarded on application. Address

WALBURN-SWENSON CO.

1520 Monadnock Block, CHICAGO, ILL.

—— A ——

RARE CHANCE.

A

Machine Shop

OF

(49) forty-nine SECOND-HAND Machine Tools, in Excellent Condition.

FOR SALE

SINGLY.

FITCHBURG AND BLAISDELL } *Makes.*

COMPRISING

LATHES, DRILLS, SHAPERS, PLANERS.

☞ N. B.—Seven of these Tools were sold last week, order promptly or REPENT.

ADDRESS

PENNSYLVANIA MACHINE CO., LIMITED.

31 N. Seventh Street, Philadelphia, Pa.

(Successors to H. B. Smith Machine Co., Phila.)

SECOND-HAND MACHINERY.

1 Planer, planes 16 ft. long 72 in. x 72 ft., 2 heads.
1 Planer, planes 5 ft. 24x24 in.
1 Planer, planes 6 ft. 32x25 in.
1 Planer, planes 8 ft. 30x30 in.
1 Planer, planes 4 ft. 24x24 in. [not screw cut'g
1 Engine Lathe, 9 ft. bed, 28 in. swing screw feed
1 Engine Lathe, 12 ft. bed, 22 in. swing.
1 Engine Lathe, 12 ft. bed, 22 in. swing.
1 Lathe, Boring and Turning, 15 ft. bed, 84 in. swg.
1 Engine Lathe, 20 ft. bed, 24 in. swing, A1.
1 Engine Lathe, 11 ft. bed, 22 in. swing.
1 14 ft. Vertical Boring Mill.
1 26-in. Stevens' Pulley Lathe.
1 Automatic Rack-Cutting Machine.
1 20 in. stroke Friction Shaper.
1 175-lb. Power lift Drop Hammer.
1 11 ft. 24 in. Stover Dimension Planer.

Send for list Second-hand tools.

NEW YORK MACHINERY DEPOT,

Brooklyn Bridge Store, 16, New York.

MACHINERY IN STOCK.

ENGINE LATHES.—62 inches x 22 feet; 88 in. x 31 ft.; 50 in. x 20 ft.; 48 in. x 18 ft.; 42 in. x 12 ft.; 32 in. x 12 ft.; 29 in. x 15 ft.; 24 in. x 28 in x 20 ft.; 1 each 24 x 10 ft., 12 ft. and 16 ft.; 1 each 17 in. x 6 and 8 ft.; 1 each 16 in. x 6, 8 and 10 ft.; 1 each 14 in. x 6 and 8 ft.; 6 12 in. x 5 ft.; 2 each 11 in. x 4 and 5 ft.; 2 each 10 in. x 4 ft., power or foot-power; 1 16 in. x 6 ft., 15 in. x 6 ft. 14 in. x 5 ft. Fox Monitor Lathes; 1 15 in. x 6 ft. Square Arbor Fox Lathe; 1 each 12 in. x 5 ft., 14 in. x 6 ft., 15 in. x 6 ft., 18 in. x 6 ft. Turret Lathe; 1 each 14 in. x 6 ft., 16 in. x 6 ft., 18 in. x 6 and 8 ft 21 in x 8 and 10 ft. Engine Lathe Taper.

1 Iron Planer, 16 in. x 16 in. x 3 ft.
1 Planer, 20x20 in. x 4 ft. and 22x22 in. x 5 ft
1 " 24x24 in. x 5½ and 6 ft.
1 " 30x30 in. x 6 ft.
1 " 32x32 in. x 10 ft 42x36 in. x 12 ft
1 " 36x28 in. x 10 ft.
1 " 44x44 in. x 22 ft. and 50x50 in. x 17 ft.
1 " 30x30 in. x 9 ft., with one head.
1 " 42x42 in. x 12 ft., with two heads

Friction Shapers, 15 in., 22 in. 32 in
Crank Shapers, 12, 13, 15, 17, 20, 24 28, in. adj. st'ke
1 each Nos. 1, 2, 3, 4 Wire Feed Screw Machines.
1 each Nos. 5 to 8 Screw Machine. Power Feed.
1 each 2, 3, 4 and 6 Spindle Gang Drills.
2 Crank Planers. 12 No. 2 Lincoln Pat. Millers.
1 each Nos. 51, 52 and 53 Ferracute Presses.
1 No. 3 Stiles & Parker Geared Press.
1 No. 2½ in. Fowler Press. 10 Foot and Power
2 No. 1 Bliss Foot Presses. [Presses.
12 Punching and Shearing Machines, assorted.
1 Bolt Cutter, each ¼ to 1 in. and ½ to 2 in.
1 36 in. Gear Cutter.
1 each 48, 60 and 72 in. Radial Drill.
1 New Horizontal Boring Machine with facing attachment. Newark Mach. Tool Co., makers.
1 48 in. Gear Cutter. 1 Power Mortising Machine.
1 50 in. Pulley Lathe. 2 Profiling Machines.
1 10x12 in. Valley Automatic Engine.
1 36 in. Upright Drill. 3 Cam Cutters.

Send for List of New and Second-Hand Machinery

PRENTISS TOOL & SUPPLY CO.

59 S. Canal St., Chicago. 115 S. Liberty St N Y

BARGAINS.—SECOND-HAND TOOLS.

We have the following second-hand Machine Tools, taken mainly in exchange for those of our manufacture. We will sell them low.

17 in. x 8 ft. Putnam Lathe. Good Order.
18 in. x 6 ft. Engine Lathe. Good Order.
18 in. x 10 ft. Engine Lathe. Good Order.
20 in. x 12 ft. Ames Lathe. Good Order.
1 24 in. x 8 ft. L. W. Pond Lathe. Good Order.
1 32 in. x 32 in. x 8 ft. and 9 ft. L. W. Pond Planer. G.O.
24 in. x 16 ft. Lathe. Fair Order.
10 in. Traveling Head Shaper. Good Order.
14 in. x 24 in. x 4 ft. Planer. Good Order.
32 in. x 32 in. x 8 ft. L. W Pond Planer. Good Order.
36 in. x 36 in. x 7 ft. Mattawan Planer. Good Order.
1 Hendey 3-Spindle Drill Press. Good Order.
1 24 in Hendey Drill Press.
1 24 in. B. G. P. F. Drill Press. Good Order.
1 24-in. Plain Drill Press. Good Order.
3 34-in. Drill Presses. Good Order.
2 36-in. B. G. Drill Presses. Good Order.
2 36-in. B. G. New Haven Drill Presses. G. O.
1 2½-in. Acme Single Drill Press. Good Order.
2 750-lb. Steam Hammers (Bement, Miles & Co.) Good Order.
1 Punch, 18-in. throat, to punch 1 in. hole in ¾-in. iron. A1 Order.
1 Plain Milling Machine. Good Order.
1 Niles Universal Miller, 6-in. Univ. chuck fitted. Good Order.

We have in stock or in process of construction at our Works a full line of Engine Lathes, Planers, Crank and Geared Shapers, Drill Presses, Improved Cabinet, Fox, Monitor, Square Arbor and Turret Chucking Lathes, Valve Millers, Cock Grinders, Slide Rests, etc.

☞ Our Stock is constantly changing.
☞ Write for full particulars and prices.
☞ Outfits a specialty.

LODGE & DAVIS MACHINE TOOL CO.

MANUFACTURERS OF

IRON AND BRASS WORKING MACHINERY.

NEW YORK STORE, 64 CORTLANDT STREET.
WORKS, CINCINNATI, OHIO.
WESTERN HOUSE, 68-70 S. CANAL ST., CHICAGO.
Boston Office, No. 23 and 25 Purchase Street.

FOR SALE.

Strictly First-Class Second-Hand Boilers 50 to 100 Horse-Power,

Fittings to suit purchasers. Engines, Pumps and general machinery in stock at low prices. Every article overhauled in our own shops. No risk in buying such second-hand machinery.

CHESTER BERTOLETTE & CO.

NORRISTOWN, PA.

ONE SYSTEM

Cotton Yarn Machinery

IN EXCELLENT CONDITION.

One 40-in. 2 Beater Breaker Lapper.
One 40 in. 1 Beater Finisher Lapper, with evener.
Ten 40x48-in Full Roller Cards, with quick Combs and Coilers; Doffers 24x40 in.
Two Tables, drawing 3 heads to each table, 4 delivery each head, with Coilers.
Two 50-spindle Slubbers, 10x5.
Six Fine Speeders, 7x3½; 3 of 132 spindles; 2 of 144 spindles, and 1 of 120 spindles.
Twenty-four Spinning Frames, 1¾-in. Ring, double adjustable, 6-in. Traverse, Doyle Separators, Jencks Clearer, Short Boss Roll.
Two 100 spindle Spoolers.
Five Twisters, 120 spindles each, 2⅛-in. ring.
Five Draper Reels.
One Press.

All in excellent condition.
For particulars address.

L. GODFREY,

26 Exchange Pl., room 8, PROVIDENCE, R.I.

FOR SALE.

M

Two New Lewis Improved Bolt Headers at low figures. Guaranteed fully.

A

Set Spoke Machinery, mostly Gleason & Defiance make. Complete order; used less than four months; very low figure.

N

Boiler Feed Pump; $20 delivered; good working order. Knowles.

S

Twenty-ton Crane; used but forty-eight hours, when was replaced by larger. Will sell one-third cost in Sharon, Pa.

F

Half ton assorted sizes, Mushett Steel in the South, owned by Nail Works, shut down and selling off.

I

New Haven 60 in. Pulley Lathe, 10 ft. bed, claimed to be as good as new, near New York.

E

Two 26 in. Laundry Extractors; new, perfect, guaranteed; $75 each, f. o. b., New York.

L

Ten new Road-Making Machines at a sacrifice, to close out stock; guaranteed, $90, f. o. b.

D

Two three horse-power and three three horse-power Upright Steam Engines; all new and guaranteed.

H. H. MANSFIELD,

126 Liberty Street. NEW YORK.

Machinery, New and Second-Hand For Sale.

90 in. swing, 30 ft. bed.
50 in. swing, 30 ft. bed, for rolling mill forg's, new.
30 in. swing, 28 ft. bed, Pond Machine Tool Co. Shafting Lathe. A1.
32 in. swing, 12, 14, 16, 18 ft. beds. New.
28 in. swing, 12, 14, 16, 18 ft. beds. New.
25 in. swing, 10 ft., Pratt & Whitney.
24 in. swing, 12, 16, 20 and 24 ft.
21 in. swing, 10 and 12 ft. beds. New.
20 in. swing, 7½ ft. bed. Ames. Good.
18 in. swing, 8 ft. bed. Several makers.
16 in. swing, 6 and 8 ft. beds. Several makers.
15 in. swing, 6 and 8 ft. beds. Several makers.
14 in. swing, 6 ft. bed. Several makers.
15, 18 & 25 in. st'ke. Crank shapers, steptoe. New.
20, 26 & 30 in. stroke. G'rd shapers, steptoe. New
10x16 in. stroke Crank shapers. Good order.
24 in. stroke. Geared shapers. Good order.
20 in., 22, 24, 28, 30, 36 in. Drills. New & 2d-hand.
22 in x 5 ft. Planer.
24 in. x 4 ft., 5 ft., 6 ft. Planers.
26 in x 6 ft. Planers. 36 in x 12 and 14 ft. Planers.
54 in. x 42 in. x 24½ ft. Planers
62 in x 61 x 9 ft. Planer. Bement. A1.
62 in. x 48 in. x 17 ft. Planers.
72 in. x 48 in. x 33 ft. Planer, two hd's and Aux. Post.
40 h-p. Vertical Engine. N. Y. S. S. P. Co. A1.
11x18 horizontal slide valve Engine.
1,100 and 3,000-lb. BEMENT STEAM HAMMER.
Car-axle Lathe, Bement 1¼ and 1½ Bolt Cutters.
150 and 100-lb. MASSEY STEAM HAMMER.

Geo. Place Machine Co. 120 Broadway, N. Y.

E. M. HOPKINS,

Broker and Manufacturers' Agent for

Railway, Machine Shop and Foundry Supplies

And Ornamental and Structural Iron Work,

137½ BAY STREET, (Room 5) SAVANNAH, GA

STEEL RAILS

and Rolling Stock

NEW and SECOND-HAND.

WM. MINNIGERODE.

OFFICES:

LYNCHBURG, VA.—Peoples Nat'l Bank Bld'g.
PHILADELPHIA, PA.—224 South 4th Street.

RAILWAY SUPPLIES AND EQUIPMENT,
LOCOMOTIVES,
DUMMIES, CARS,
RAILS, FASTENINGS, FROGS,
CROSSINGS AND SWITCHES.

Complete outfits, Power Plants, Belting, etc. Contracts taken. Write for prices.

W. W. MARMADUKE,
WASHINGTON, IND.

TEE AND STREET RAILS, SPLICE BARS, TRACK BOLTS AND NUTS, R. R. SPIKES

FROGS, CROSSINGS, SWITCHES AND FIXTURES.

IRON AND STEEL AXLES, CAR TRUCK CHANNELS, WROUGHT IRON TURNBUCKLES, LINKS AND PINS AND CAR COUPLERS.

BAR IRON AND STEEL, SHEET IRON AND STEEL, CORRUGATED IRON.

STEAM SHOVELS, BALLAST UNLOADERS, AND STEAM CRANES

LOCOMOTIVES AND CARS OF ALL KINDS.

A. T. SHOEMAKER,

Railroad Supplies and Equipment.

(New and Second Hand.)

146 BROADWAY, NEW YORK.

Rails, Saws and Drills.

Rails at a Bargain.

We own and offer For Sale cheap 450 tons of Selected Second-Hand, 30 lb. IRON RAILS in Chester County, Pa., all in good condition; also 475 tons Second-Hand 52 lb Steel Rails at Pittsburgh, Pa., in excellent condition to relay.

ROBINSON & ORR,

410 Wood Street, PITTSBURGH, PA

ESTABLISHED 1855.

GEORGE PLACE,

Late the George Place Machinery Co.

Equipment of Railway & Car Works

EQUITABLE BUILDING,

120 Broadway. NEW YORK

GEORGE A. EVANS,

Steel Rails, Railway Equipment,

18 Wall St., New York City.

OLD RAILS.

1,800 tons 56-lb. Steel Rails with Angle Plates, A 1 order; 300 tons 38 lb Johnson Girder Rails; 150 tons 30-lb. and 35 lb T Rails. Also a lot of Standard Gauge Rolling Stock. For Sale by.

SOUTHERN IRON & EQUIPMENT CO.

67 Old Capitol Building, ATLANTA, GA.

STEEL RAILS

And Track Material complete for Logging and Mining Roads and Industrial Enterprises on the

Instalment Plan.

Payment, cash margin 25 per cent., balance monthly for 24, 36 or 60 months. Also

Locomotives and Cars

On same terms. Second-hand Rails purchased.

The STEEL RAIL SUPPLY CO.

HUMPHREYS & SAYCE, Mgrs., 10 Wall St., New York.

We have no Agents.

MANAGERS of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the MANUFACTURERS' RECORD. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

INTERNATIONAL RAILWAY EQUIPMENT & SUPPLY CO. Incorporated.

Principal Office, "ALDRICH COURT," 45 Broadway, N. Y.

Orders and Inquiries Solicited for every description of

RAILWAY EQUIPMENT AND SUPPLIES.

G. W. BENTLEY, President. G. LEVE, V. P. and G. M.

SEND FOR CATALOGUE

OLD & NEW RAILWAY EQUIPMENT

A. S. MALES & CO.

CINCINNATI, O.

FOR SALE AT AUCTION,

On SATURDAY, JANUARY 21, 1893, at 10 o'clock A. M., on the premises, for account of whom it may concern, THE ENTIRE EQUIPMENT OF THE

BOSTON HEATING CO.

464 ATLANTIC AVENUE, - - BOSTON, MASS.

Consisting of Tubular and Sectional Boilers, about 4,000 h. p.; Engines, 1 to 40 h. p. each; large number of Steam Pumps, Blake's and Knowlses'; Sturtevant Fan Blowers, large and extra sizes, with engines. Westinghouse Dynamo, 20 Arc light; Tanks of various sizes, Lathes and Drills, large quantity of piping and valves, wrought and cast iron, wrought iron smoke stocks. All shafting and pulleys, steam piping, valves and connections, in position as used by the company, all in good condition. Also, in storehouse, a very large stock of steam fitters' and machinists' tools and supplies, mostly new. 50,000 to 75,000 Dover pressed hard brick and fire brick. Ten tons Asbestos sectional and loose covering, etc., etc. For particulars apply to

HUBBARD BREED, 43 State St.,
E. ROLLINS MORSE & BRO., 38 State St or to } BOSTON, MASS.
H. HARRIS & CO., Auctioneers, 227 State St.,

LOCOMOTIVES,

Passenger and Freight

CARS,

Both New and Second-Hand.

IMMEDIATE DELIVERY.

Low Prices. Easy Terms.

NEW YORK EQUIPMENT CO

15 WALL ST. NEW YORK

RAILWAY EQUIPMENT

STEEL RAILS & TRACK SUPPLIES

EQUIPMENT and SUPPLIES

FOR

Electric, Street and Suburban

ROADS,

BOTH NEW AND SECOND-HAND.

Whether you wish to BUY or SELL, WRITE US.

SOUTHERN LUMBER DIRECTORY.

A List of Leading Lumber Dealers and Manufacturers in the South.

This list of representative Southern lumber merchants and manufacturers is published for the benefit of those who desire to reach responsible houses in this branch of business in the South. Readers of the MANUFACTURERS' RECORD who have occasion to correspond with any of the firms mentioned below will confer a favor by mentioning this paper.

Yellow Pine.

I. B. Gordon & Co., Alpine, Ala.
Villa Rica Lumber Co., Anniston, Ala.
J. R. Adams & Sons, Birmingham, Ala.
Hawkins & Smith, Birmingham, Ala.
C. T. Hughes & Co., Birmingham, Ala.
Riddle & Simpson, Birmingham, Ala.
Southern Supply Co., Birmingham, Ala.
Marbury & Jones, Bozeman, Ala.
D. W. & U. Blacker, Brewton, Ala.
W. W. Weaver, Castleberry, Ala.
J. A. Dudley, Clanton, Ala.
O. A. Duke, Clanton, Ala.
L. B. Wells, Clanton, Ala.
H. C Higman & Co., Decatur, Ala.
Dunham Lumber Co., Dunham, Ala.
Thos. Taylor, Escatawpa, Ala.
W. J. Williams & Son, Eustis, Ala.
Gadsden Lumber Co., Gadsden, Ala.
Tuscaloosa Lumber Co , Hull, Ala.
Downing & Scott, Kirkland, Ala.
Bay City Lumber Co., Mobile, Ala.
E. B. Vaughan, Mobile, Ala.
Alabama Lumber Syndicate, Montgomery, Ala
S. B. Allen & Co., Montgomery, Ala.
W. A. Drives & Co., Montgomery, Ala.
Moore, Kirkland & Co., Montgomery, Ala.
John Crosby, Pansey, Ala.
S. A. Blasingame, Verbena, Ala.
Wagar Lumber Co., Wagar, Ala.
W. W. Wadsworth, Wadsworth, Ala.
Arkadelphia Lumber Co., Arkadelphia, Ark.
Empire Lumber Co., Ashton, Ark.
Long Bell Lumber Co., Buckner, Ark.
Cotton Belt Mill Co., Cotton Belt, Ark.
Eagle Lumber Co., Eagle Mills Ark.
Red River Lumber Co., New Lewisville, Ark.
A. J. Neimeyer Lumber Co., Waldo, Ark.
Fordyce Lumber Co , Fordyce, Ark.
The Florida Phosphate Co., Ltd., Phosphoria, Fla.
J. S. Betts & Co., Ashburn, Ga.
Gress Lumber Co., Atlanta, Ga.
Wilson Coal & Lumber Co., Atlanta, Ga.
Donalson Lumber Co , Donalsonville, Ga.
Perkins Manufacturing Co., Augusta, Ga.
Stillwell, Millen & Co., Savannah, Ga.
E. B. Hunting & Co., Savannah, Ga.
Georgia Lumber Co., Savannah, Ga.
F. F. Putney, Hardaway, Ga.
Charles Bewich & Co., Hazelhurst, Ga
Alderfer & Bull, Isabella, Ga.
Hogan & Winger, Kensington, Ga.
J. A. Williams, Sumner, Ga.
A. J. Duncan & Co., West Bowersville, Ga.
W. E. Mayne, Carpenter, Ky.
P. Hendrickson, Conant, Ky.
Perkins & Miller Lumber Co., Ltd., Westlake, La.
Lock-Moore & Co., Ltd , Westlake, La.
R. J. Aycock, Longstreet, La.
C. P. Brasher, Marthaville, La.
Joseph Horst, Maugansville, Md.
Elliott, Crawford & Co., Myrtle, Miss.
P. B. Myers & Son, Myrtle, Miss.
Ocean Springs Lumber Co., Ocean Springs, Miss.
B. J. Cansey, West, Miss.
Cary E. Spence, Pass Christian, Miss.
Keystone Lumber & Imp. Co., Bogue Chitto, Miss
J. S. Blackburn, Ellisville, Miss.
W. L. Rankin & Bro., Shannon, N. C.
A. E. Rogers, Mullins, S. C.
R. F. Moss, Booker, Va.
The A. F Withrow Lum. Co., Millboro Depot, Va.
U. B. Simpson & Son, Naruna, Va.

North Carolina Pine.

Page Lumber Co., Aberdeen, N. C.
The Greenville Land & Imp. Co., Greenville, N.C.
Guilford Lumber Mfg. Co., Greensboro, N. C.
Goldsboro Lumber Co., Goldsboro, N. C.
G. Vyne & Son, Wilkesboro, N. C.
John Hickson & Co., Lynchburg, Va.

Cypress.

Morris & England, Keo, Ark.
Cypress Lumber Co., Sherrill, Ark.
T. O. Wilson Lumber Co., Tillar, Ark.
Nuchner & Brown, Peach Orchard, Ark.
Moline Lumber Co., Helena, Ark.
J. M. Milburn & Bro., Greenway, Ark.
J. C. McCain, Greenway, Ark.
W. R. Emerson, Emerson, Fla.
J. C. Burleigh, Midland, Fla.
F. S. Bamberg, Jasper, Fla.
S. J. Temple, Temple's Mills, Fla.
J. P. Little, Sumner, Fla.
Geo. H. Barker, Waldo, Fla.
A. A. Bunnell, Raulerson, Fla.
Windemere Land & Lumber Co., Windemere, Fla.
Kelly, Cosby & Co., Jug Tavern, Ga.
Dietrich & Dopson, Lenox, Ga.
W. T. McArthur, McArthur, Ga.
W. H. Moxley & Co., Macon, Ga.
W. R. Peterson & Co., Wadley, Ga.
Lawless & Kyle, Franklin, La.
Louisiana Cypress Lumber Co., Harvey, La.
Callahan & Lewis Mfg. Co., Patterson, La.
McEwen & Murray, New Orleans, La.
Hanson & Smith, Wilmington, N. C.
J. C. Fulton, Aransas Pass, Texas.
Calcasieu Lumber Co., Austin, Texas.
M. T. Jones & Co., Childress, Texas.
J. H. Folkey, Korville, Texas.

Hardwoods.

North Alabama Lumber Mfg. Co., Bridgeport, Ala.
Bridgeport Lumber Co., Bridgeport, Ala.
Hill & Mitchell, Center Star, Ala.
W. A. Koeppel, Coaling, Ala.
Decatur Lumber Co., Decatur, Ala.
H. S. Freeman, Decatur, Ala.
Black Warrior Lumber Co., Demopolis, Ala.
Alabama Lumber & Mfg. Co., Gurley, Ala.
G. Vaughan, Hollywood, Ala
C. G. Huffman, Hollywood, Ala.
Clifton & Hendrix, Jasper, Ala.
Elliott & Carter, Jasper, Ala.
W. M. Beatty, Austin, Ala.
J. W. Ray, Arkadelphia, Ark.
Desha Lumber Co., Arkansas City, Ark.
Batesville Lumber Co., Batesville, Ark.
Russell & Elder, Beebe, Ark.
South'n Hardwood Lumber Co., Black Rock, Ark.
E. M. Ford Land & Timber Co., Gilmore, Ark.
Kelley & Wells Lumber Co., Newport, Ark.
Cream City Lumber Co., Lamberthville, Ark.
J. M. Meffert, Lowell, Fla.
Ray & Geise Bronwood, Ga.
Altamaha Cypress Lumber Co., Brunswick, Ga.
Montford & Mitchell, Butler, Ga
Glasgow & Henderson, Cassville, Ga.
Green & Eshum, Clay Hill, Ga.
W. H. Allen, Cordele, Ga.
Greer Bros , Ada, Ga.
D. T. Harris, Dixon, Ga.
W. T. Opie, Dover, Ga.
A J. McMullen, Hartwell, Ga.
Matthews & Anderson, Knoxville, Ga.
R. W. Ballard, Newton Factory, Ga.
O. W Wadley, Rogers, Ga.
L. T. Brawner, Adairville, Ky.
G. W. Hummer, Adairville, Ky.
W. Conn & Son, Bedford, Ky.
Snider Bros., Berea, Ky.
Gibson & Hale, Flat Lick, Ky.
J. L. Naylor, Wickliffe, Ky.
Samuel Anglen, Lafayette, Ky.
H. E Miller, Lewisburg, Ky
Fetter Cochran & Co., Louisville, Ky.
J C. Williamson, Mouth of Pond, Ky
The Cumberland Co., Middlesborough, Ky.
Waters & Bringhurst, Pineville, La.
J. H McBride, Winnfield, La.
The Loomis & Hart Mfg. Co., Chattanooga, Tenn.
John Hoagland, Spring City, Tenn.
Jas. M. Williams, Charlottesville, Va.
Smith & Co , Reedy Ripple, W. Va.
Shelly & Wirgman, Romney, W. Va.

Shingles.

A. C. Danner, Mobile, Ala.
J. Bradley, Hartsell's, Ala.
Conecuh & Patsaliga Lumber Co., Luverne, Ala.
G. N. Buchanan, Luverne, Ala.
J. D. Cameron & Son, Mobile, Ala.
Mobile Shingle Co., Mobile, Ala.
Mountain & Sons, Mobile, Ala.
C. G. Richards & Son, Mobile, Ala.
Stewart & Butt, Mobile, Ala.
Gulf States Lumber Co., Montgomery, Ala.
D. Goulet & Co., Black Rock, Ark.
F. McKay, Black Rock, Ark.
Camden Shingle Mill Co., Camden, Ark.
Price Lumber Co., Paragould, Ark.
Carey & Ollinger, Bagdad, Fla.
A. L. Wellman & Co , Beresford, Fla.
Florida Shingle Mills, Brooksville, Fla.
W. Springstead & Son, Brooksville, Fla.
Mearns Shingle Mill, Davenport, Fla.
Wm. A. McCann, Jacksonville, Fla.
A. G. Russel, Oviedo, Fla.
Little & Chapman, Rosewood, Fla.
Atlanta Lumber Co., Atlanta, Ga.
P. G. Grant, Atlanta, Ga.
T. E. Collier, Cordele, Ga.
King & Bursch, Hawkinsville, Ga.
Yarbrough & Perry, Fullington, Ga.
Ino. Akers & Co., Scotland, Ga.
Baily Bros., Toccoa, Ga.
Mayfield Shingle Co., Wishart, Ga.
Worth Lumber Co , Worth, Ga.
G. W. Clere, Coalton, Ky.
Monroe Smith, McKinney, Ky.
The J. H. Poe Shingle Co., Lake Charles, La.
Harris & Thornton, Chattanooga, Tenn.
E. Cravens, Bagwell, Texas.
L. Miller Shingle Co., Orange, Texas.
Kizer Lumber Co., Texarkana, Texas.
Fritz Sitterding, Richmond, Va.
Gurley & Rogers, Norfolk, Va.
Nottingham & Wrenn, Norfolk, Va.
Jno. L. Roper Lumber Co., Norfolk, Va.

Staves and Heading.

F. W. Sharp & Co., Larkinsville, Ala.
J. R. Adams & Son, Longview, Ala.
Montgomery Stave & Bldg. Co , Montgomery, Ala.
J. C. Sheets & Co., Montgomery, Ala.
P. V. Deland, Black Rock, Ark.
Hammett & Bailey Stave Co., Greenway, Ark.
Arkansas Stave Works, Greenway, Ark.
J. F. Hasty & Son, Paragould, Ark.
G. M. Rosegrant, Paragould, Ark.
Wilson Bros., Piggott, Ark.
Backus Bros., Pine Bluff, Ark.
Little Rock Cooperage Co., Little Rock, Ark.
Tampa Lumber Co., Tampa, Fla.
Hagan & Platt, Pine Level, Fla.
R. H. Brewer, Cedartown, Ga.
Georgia & Tennessee Lumber Co., Laconte, Ga.
F. H. Waring & Co., Cement, Ga.
Allen & Briggs, Bardwell, Ky.
F. B. Freeman, Cumberland Falls, Ky.
Johnson & Overshiner, Hopkinsville, Ky.
T. H. Meehan, Louisville, Ky.
J. G. Evans & Co., Moorehead, Ky.
Tippett & Co., Moorehead, Ky.
Edward Farley, Paducah, Ky.
Lester & Little, Sloans Valley, Ky.
Pinnell & Webb, Somerset, Ky.
George D. Eike, New Orleans, La.
E. O. Felton, Ronceverte, W. Va.
J. Beckwith & Co., Waverly, W. Va.

Railroad Ties.

W. J. Felt, Greenup, Ky.
G. & A. Kopp, Louisville, Ky.
Southern Tie & Lumber Co., Louisville, Ky.
James S. Pope, Halls, Md.
P. L. Conquest & Co., Norfolk, Va.

Spokes and Handles.

Jacob Wise & Son, Fulton, Ky.
Paducah Handle Works, Paducah, Ky.
Hendersonville Mfg. Co., Hendersonville, N. C.
Rutherfordton Sp. & Hdl. F'y, Rutherfordton, N. C.
C. J. Dundas, Statesville, N C.
Thomasville Spoke Works, Thomasville, N. C.
Johnson Bros., Brownsville, Tenn.

Southern Real Estate Directory.

For the convenience of the many readers of the MANUFACTURERS' RECORD it has been deemed advisable to collect under this head a reliable list of Realty Agencies of the Southern States. The value of such a list for the purpose of Ready Reference will immediately become apparent to all who are interested in the growth of this section.

DISTRICT OF COLUMBIA.

WASHINGTON, D. C.—**Chas. A. McEuen**, Real Estate, Loans and Insurance. 1420 F. St.

FLORIDA.

OCALA—**J. V. Burke**, Phosphate, Pine and Cypress Timber Lands. Loans negotiated.

NORTH CAROLINA.

ROCKY MOUNT—**Geo. S. Sartin**, Town Lots, Acre Property, Farms.
NORTH WILKESBORO—**W. F. Trogdon**, Town Lots and Farm Lands.
OLD FORT—**O. H. Blocker**, Real Estate, Timber and Mineral Lands.
RALEIGH—**J. M. Broughton & Co.**, Real Estate, city and country realty.
ROCKY MOUNT—**Arrington & Arrington**, Real Estate. Correspondence invited.
WINSTON—**E. R. Amis**, Real Estate. First-class investments a specialty.

TENNESSEE.

MEMPHIS—**Hodge & Bro.**, 59 Madison St., Real Estate Agents and Dealers.

VIRGINIA.

CHARLOTTESVILLE—**J. C. McKennie & Co.**, Real Estate and Insurance Brokers.
NEWPORT NEWS—**Cottrell Company**, Real Estate. Correspondence invited.
NORFOLK—**A. W. Cornick & Co.**, Real Estate Agents, 102 Main Street.

"The MANUFACTURERS' RECORD is the Most Widely-Quoted Industrial Paper in the World."

Eastern Office, No. 284 Pearl Street, Cor. Beekman, New York.

IRON AND STEEL ROOFING

CORRUGATED.—V. CRIMP.
—STANDING SEAM.—

GALVANIZED IRON — TIN PLATE.

THE CINCINNATI CORRUGATING CO.,

WRITE FOR CATALOGUE AND PRICES. PIQUA, OHIO.

HOLTON IRON ROOFING Co.
ROOFING SIDING, CEILING &c.
NEW LISBON, O.
AGENTS WANTED EVERYWHERE

The BERGER MFG. CO., Canton, O.

DON'T make arrangements for ROOFING 'till you have seen ours.

It Excels all other Metal Roofs.

THE GLOBE IRON ROOFING AND CORRUGATING CO.

CINCINNATI, OHIO.

Manufacturers of Superior Grades of all Gauges of Corrugated Standing Seam, Roll Cap and all styles

ROOFINGS, SIDINGS and CEILINGS.

Write us for Prices and Estimates. Special Discount to the Trade.

THE KANNEBERG ROOFING Co. CANTON O.
MFR'S OF THE KANNEBERG PAT. LATEST IMPROVED FOLDED LOCK SEAM STEEL ROOFING.
ORIGINATORS OF GENUINE STEEL ROOFING.
ALSO CORRUGATED & CRIMPED IRON ROOFING SIDING & CEILING EAVE TROUGH, CONDUCTOR PIPE &c
WRITE FOR CATALOGUE & PRICE LIST

CURTIS STEEL ROOFING COMPANY.

CORRUGATED IRON

V-Crimped and Weather-board,

Painted with GRAPHITE PAINT.

Address Box 1085, - - - - - NILES, OHIO.

J. H. ELLER & CO.

MANUFACTURERS OF

STEEL ROOFING,

CORRUGATED IRON, DECORATED CEILINGS, Etc. Headquarters for Galvanized Steel Eave Troughs and Conductor Pipes. Write us for prices. Address Office No. 207 E. 5th St., CANTON, OHIO.

THE ACME ROOFING CO., CANTON, OHIO.

MANUFACTURERS OF

STEEL ROOFING Corrugated, Beaded and Crimped Iron ROOFING, SIDING and CEILING.

EAVE TROUGH, CONDUCTOR PIPES, HANGERS, ETC.

Write for catalogue, price list and samples.

STEEL ROOFING and CORRUGATED IRON.

The latest and Guaranteed to be the BEST. Write for Samples and Prices.

FOSTORIA STEEL ROOFING CO.

FOSTORIA, OHIO.

Texas Coal Tar & Asphaltum Co.

101 Main Street, Dallas, Texas,

MANUFACTURERS OF

Roofing and Paving Materials

ASPHALTUM AND COAL TAR CEMENTS, ROOF COATINGS, TAMPICO ASPHALTUM METALLIC PAINT, ROOFING AND BUILDING PAPERS OF ALL KINDS, CARPET, DEADENING AND INSULATING PAPERS.

ALSO AGENTS FOR

THE IMPROVED 3 PLY METALLIC ROOFING AND SIDING.

FIRE-PROOF WATER-PROOF WIND-PROOF

GUTTA PERCHA ROOFING!

The Great Roofing for the South. Send for Southern Manufacturers' References. For Steep or Flat Roofs, Factories, Mills, Lumber Sheds, etc. Send for Catalogue, Testimonials, Samples, etc.

Empire Paint & Roofing Co., 111 N. FOURTH STREET, Philadelphia, Pa.

STEEL ROOFING

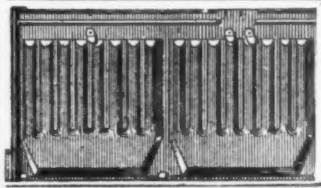
CELEBRATED CROWL'S PATENT

CORRUGATED IRON AND 12 OTHER STYLES

CAMBRIDGE ROOFING CO.

Cambridge, Ohio, P. O. Box 25.
Chattanooga, Tenn., P. O. Box 80.

EAVE TROUGH AND CONDUCTOR PIPE. WRITE FOR PRICES.

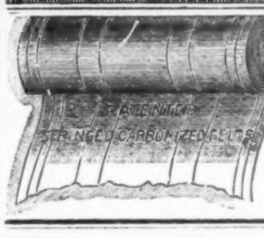


METAL TILE AND SHINGLES.

THE BEST MADE.

Cost no more than those of inferior construction. Send for Circular and Price List.

MONTROSS METAL ROOFING CO., Camden, N. J.



USE

POWERVILLE CARBONIZED STRINGED

2 and 3-Ply READY ROOFING

And Genuine Asphalt Paint.

It is the Best. Write for Prices

WESTERN AGENTS:

A. RASCH & SON, 511 Walnut Street St Louis Mo

P. AND B. BUILDING AND SHEATHING PAPERS,

For Sheathing Houses, and for Lining and INSULATING BUILDINGS FOR COLD STORAGE PURPOSES.

NO TAR, NO ODOR, THOROUGHLY WATERPROOF and AIR TIGHT.

MANUFACTURED BY

THE STANDARD PAINT CO., 2 Liberty St, New York.

For Sale by H. W. CLASSEN, 515-521 S. Howard St., Baltimore.

PAT'D JAN. 14TH 1890

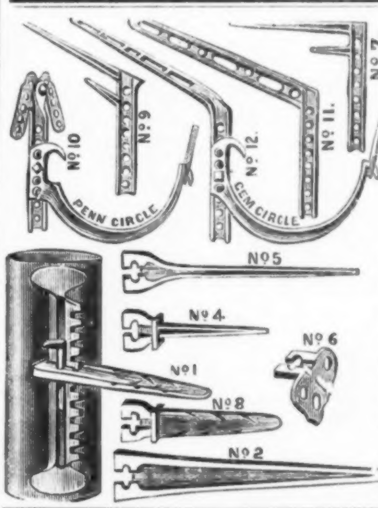
The Sims Mfg. Co. NEWARK, OHIO,

MAKE THE

Finest, Best and Cheapest Eave Trough in the World.

Also Plain, Round and Corrugated Conductor Ridge Rolls and Roof Gutters, &c. All made from the very Best Galvanized Steel, in 8 foot lengths.

L. D. BERGER, Agent, 224 Arch Street, Philadelphia, Pa



BERGER BROS., No. 237 Arch Street, Philadelphia, Pa.

Tinners' Hardware and Roofers' Supplies.

SOLE MANUFACTURERS OF

BERGER'S CELEBRATED PATENT

Trough Hangers and Pipe Fasteners

We invite special attention to our No. 7 Hanger, to drive square in the box; No. 10, to nail on the front, and No. 11, to the side of the rafter, for Mills and Factories where the rafters are exposed; also No 12 Hanger, to fasten under the shingles. These Hangers give the trough a handsome paneled appearance, are exceedingly strong and handy to put up, and are a general favorite wherever introduced.

We also invite attention to our late improved Patented Pipe Fastener. This Fastener can be used in any position, either right or left, on all kinds and sizes of pipe. Can never rattle or get loose, and with a variety of wood and brick drives of different lengths, pipes can be put up in all kinds of positions. Also all kinds of Hinged Hooks, Wood, Brick, Soil Pipe and Plumbers' Hooks and Straps. Send for sample order; if not satisfactory, freight allowed both ways.

To Architects, Builders and Owners.

Attention is called to Fire-Proof and Vermin-Proof

MINERAL WOOL,

As a Lining in Walls and Floors for Preventing the ESCAPE OF WARMTH AND THE DEADENING OF SOUND.

SAMPLE AND CIRCULARS FREE.

U. S. Mineral Wool Co., 2 Cortlandt Street, N. Y.

MINERAL WOOL

HEAT, COLD AND VERMIN PROOF. MOST PERFECT INSULATOR KNOWN—Deadening sound, prevention of spread of fire

Cold Storage, Ice-House, Dry-Kilns, Green-Houses, Refrigerators, Safe, Boiler Covering, &c., &c. Send for pamphlets and Sample; mailed free.

ROANOKE MINERAL WOOL COMPANY, Roanoke, Va.

THE CANTON STEEL-ROOFING CO., CANTON, O.,

MANUFACTURERS OF

PATENT FOLDED LOCK SEAM STEEL ROOFING, CORRUGATED IRON.

SEND FOR CATALOGUE

CRIMPED EDGE IRON ROOFING AND SIDING, BEADED IRON SIDING & CEILING, IRON FRAME BUILDINGS, IRON DOORS & SHUTTERS, ROOFING PAINTS, WATER PROOF SHEATHING PAPERS &C.

SAMPLES & PRICE LIST.

SAWING MACHINERY

BEACH'S PATENT SCROLL SAWING

Machines. More than 5,000 in use.

You can stop, change the saw and get to work in 4 seconds. ALSO **Steel Saw Arbons, Slitting Saw Tables, Combination Saw Benches, Combined Rip and Cut-off Saws. The Best Double and Single Cut-off Saws Made on Earth. Combined Square and Bevel Saw Gauges.**

You can't afford to buy any other. Send for catalogue and prices. Address (naming street)

H. L. BEACH, 110 Rose Street, Montrose, Pa.

SOMETHING THAT LUMBERMEN HAVE BEEN LOOKING FOR FOR NINETEEN CENTURIES.

It is within the reach of all in prices, but can't be equaled for excellence of its work for safety and durability. Why is this true? First, because the heating surface being protected from the dropping of the lumber, and the furnaces being remote from the building and the radiators, make it the safest and most desirable Dry-Kiln on the market. Second, being based upon scientific principles it duplicates nature all the way through, making the simplest, most sensible and economical, drying all material. It will run 365 days in a year without a dime's worth of repair. Write for prices and details. We are ready to demonstrate and substantiate everything claimed for our Kiln.

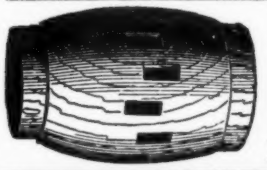
GLOBE DRY-KILN COMPANY, W. GRAHAM, President and Gen'l Mgr. **MERIDIAN, MISS.**

THE ARTISTIC WOOD WORKS, at LURAY, VA. Near the Famous Caverns.

Operate the great Polygonal Machinery patented by the N. L. & T. Co.

THE MOST EXTENSIVE WOOD TURNING WORKS IN THE SOUTH.

Execute Unique Designs from ¼ inch square to 10 inches square and 60 feet long. High Finish. Perfect Stock. Inimitable Execution. All kinds domestic thoroughly seasoned Hardwoods in unlimited supply. Capacity from 5,000 to 20,000 daily. Will execute from "your or our" designs. Address for catalogue, etc. THE LURAY ARTISTIC WOOD CO., Luray, Va.



R. M. WHITNEY

MANUFACTURER OF

BLACK BIRCH HUBS,

OLEAN, N. Y., U. S. A.

These Hubs are made in sizes from 6x8 to 16x18 inches, and are especially adapted to dry climates. Send for Circular and Prices.

LAUNDRY "ONKO" MACHINERY.

HOTEL and INSTITUTION WORK CAREFULLY HANDLED.

ESTABLISHED 1861. Send for Catalogue. **OAKLEY & KEATING, 40 Cortlandt St., New York.**

Southern Representatives Brewster Hardware Co., Raleigh, N. C.

Laundry Machinery.

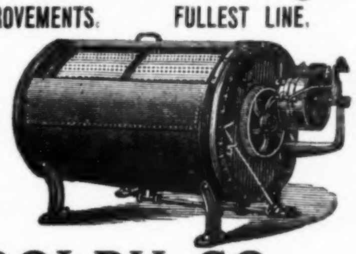
LARGEST STOCK. LATEST IMPROVEMENTS. FULLEST LINE.

Washing Machines,
Ironing Machines,
Centrifugal Machines,
Mangles, Wringers, &c.
BOILERS AND ENGINES.

OUTFITS FOR

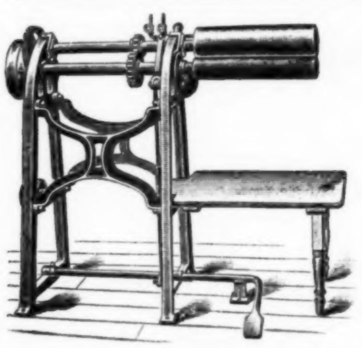
Hotels and Public Institutions.

A SPECIALTY.



THE A. M. DOLPH CO.

46 South Clinton Street, CHICAGO, ILL. 40 Cortlandt Street, NEW YORK. No. 166 to 180 W. Pearl Street, CINCINNATI, O.



GEO. J. FRITZ'S PATENT SHIRT BODY IRONER.

Laundry Machinery

COMPLETE

LAUNDRY OUTFITS,

Ranging in Price from $750 Upwards.

SEND FOR CATALOGUE AND PRICE LIST.

GEO. J. FRITZ,

2008 to 2028 South Third Street,

ST. LOUIS, MO.

QUEEN CITY SUPPLY CO., PUCHTA, PUND & CO. PROPRIETORS.

Nos. 161, 163 & 165 West Pearl Street, Cincinnati, Ohio.

DEALERS IN

Factory, Machine Shop and Mill Supplies.

Agent for B. F. Sturtevant Co., Blowers and Exhausts; Boston Belting Co., Rubber Goods of all kinds; Jewell Belting Co., Leather Belt; Jno. A. Roeblings' Sons, Wire Rope; Grant Corundum Wheel Co., Emery Wheels; Magnolia Metal Co., Magnolia Babbitt Metal.

SHARON FIRE BRICK WORKS,

SHARON, PA.

No. 1 Silica Brick. No. 1 Mill Brick. Hexagon Tile.

No. 1 CLAY AND SILICA BRICK

For Rolling Mills and Steel Smelting Furnaces.

FIRE CLAY.

PRESSED BRICK

Manufactured in the South and close to the home market by the

COALDALE BRICK & TILE CO.

Office, 2022½ First Ave., BIRMINGHAM, ALA.

ORNAMENTAL, BUFF and MOTTLED BRICK. BRICK for ARCHES ground to any RADIUS at reduced prices. CHEAP FREIGHT RATES, prompt shipment and satisfaction guaranteed. Samples and catalogue furnished upon application. Write to

JOHN W. SIBLEY, Treasurer,

BIRMINGHAM, ALA.

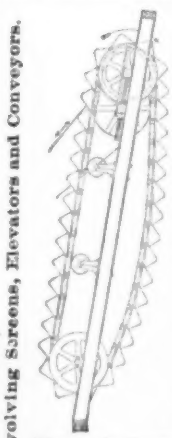
McLANAHAN & STONE,

Engineers and Manufacturers,

Gayspurt Foundry, Hollidaysburg, Pa.

ORE JIGS, IMPROVED WASHERS For Phosphate, Iron, Manganese and other Ores.

Revolving Screens, Elevators and Conveyors.



Elevator for Coarse Material.

EXPANSION BOLTS

For Fastening all Kinds of Structure to Brick and Stone Work.

Patentee and Manufacturer,

ISAAC CHURCH,

Send for Catalogue. TOLEDO, OHIO

Eco Magneto Watchman's Clock

An Electric Watchman's Clock Without Batteries.

It dispenses entirely with a Battery.
It cannot be tampered with nor false records be made on it.

C. D. BERNSEE,

Temple Court Building, NEW YORK CITY.

THOMAS CARLIN'S SONS,

Lacock & Sandusky Sts., ALLEGHENY, PA.

RAIL, BAR, SHEET AND CLIPPING **SHEARS**

Ore Pans, Crushers, Derricks, Scull Breakers, Hoisting Machinery, Etc.

The Standard Steel Works

MANUFACTURERS OF

Locomotive and Car Wheel Tires

Office, 220 S. Fourth St., Philadelphia, Pa.

LEVIATHAN BELTING.

Is the Strongest, Runs the Most Evenly and Best Adapted for Cotton, Woolen, Saw and Planing Mills, Brick and Tile Works and HEAVY DRIVING Generally.

Main Belting Co.

1219-1235 Carpenter St. PHILADELPHIA.

120 Pearl Street, Boston.

248 Randolph Street, CHICAGO.

The GRINNELL AUTOMATIC SPRINKLER

Recently Modified. Especially Constructed to Resist the Effects of Adhesive Corrosion or Sediment, both Inside and Outside the Sprinkler.

FOR INFORMATION AND PROPOSALS APPLY TO

PROVIDENCE STEAM & GAS PIPE CO., Providence, R. I.

BOSTON OFFICE, 173 Devonshire Street. CHICAGO OFFICE, 115 Monroe Street.

AUTOMATIC FIRE ALARM & EXTINGUISHER CO. (Limited),

415 BROADWAY, NEW YORK. PHILADELPHIA OFFICE, 49 S. Fourth Street.

T. H. BROOKS & CO.

CLEVELAND, OHIO.

Manufacturers of

Fuel Gas Producers,
Architectural Iron Work,
Sidewalk Lights,
Steam-Heating Apparatus.

SHAFTING.

Turned and Highly Polished Iron and Steel Shafting. Guaranteed round straight and true.

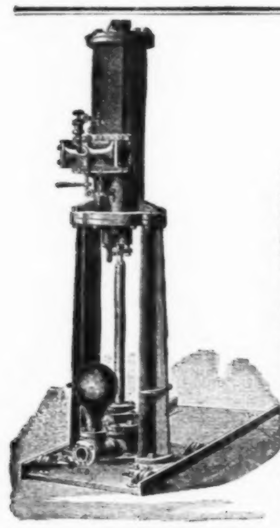
THE MOST PERFECT SHAFTING MADE.

The McKaig Iron & Steel Shafting Works,

CUMBERLAND, MD.

Subscribe to the MANUFACTURERS' RECORD. *Price $4.00 a year, or six months for $2.00.*

CAMERON STEAM PUMPS.



ARTESIAN WELL PUMPS.

PUMPS FOR BOILER-FEEDING, MINES, REFINERIES, BREWERIES, TANNERIES, IRRIGATING, FIRE PURPOSES, RAILROADS and FILLING TANKS. CRANK and FLY WHEEL And VACUUM PUMPS.

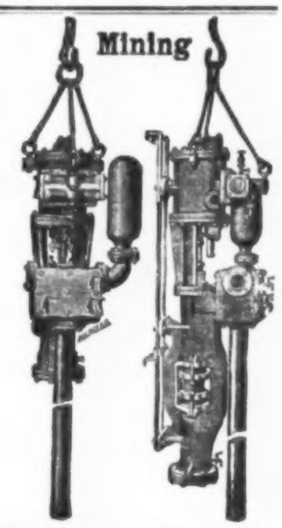
SEND FOR Illustrated Catalogue A.

SIMPLE, COMPACT, DURABLE, EFFICIENT.

ADAPTED TO ALL PURPOSES.

NO OUTSIDE VALVE GEAR.

Mining

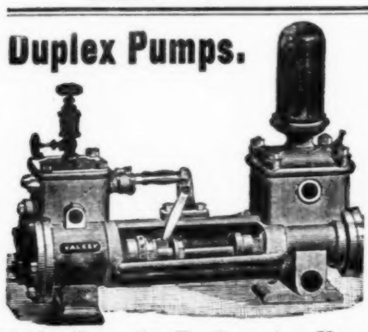


Piston Pattern. Plunger Pattern.

The A. S. Cameron Steam Pump Works, Foot of East 23d Street, NEW YORK.

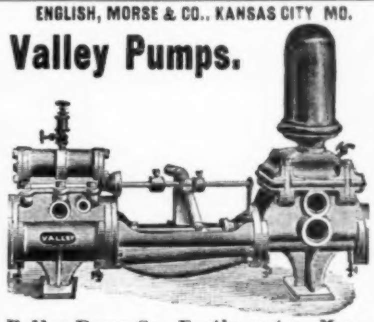
ENGLISH, MORSE & CO., KANSAS CITY MO.

Duplex Pumps.



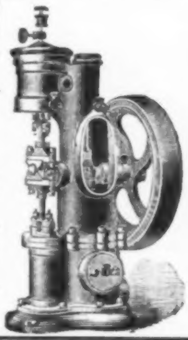
Valley Pump Co., Easthampton, Mass

Valley Pumps.



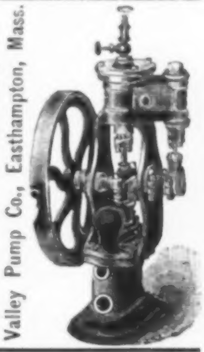
Valley Pump Co., Easthampton, Mass.

ACME PUMPS. Valley Pump Co., Easthampton, Mass.



BUCKET PLUNGER PUXPS. Valley Pump Co., Easthampton, Mass.

A B C PUMP. Valley Pump Co., Easthampton, Mass.



PUMPS

We manufacture direct acting Duplex and Crank and Fly Wheel Steam Pumps for all services. Brass Founders and manufacturers of Brass and Iron Body goods. Straightway valves, etc. Iron Pipe and Fittings and Mill Supplies. Boiler Feed Pumps a specialty. Address

THE JOHN H. McGOWAN CO.

42, 44, 46 Central Ave., CINCINNATI, O. | Branch House, 1425 E. Main St., RICHMOND, VA

H. E. McWANE, President and General Manager. W. D. CAMPBELL, Secretary and Treasurer.

THE GLAMORGAN COMPANY, Proprietors of

HILL CITY PIPE WORKS

Manufacture all kinds of Blast Furnace, Coking and Mining Machinery; Boilers, Engines, Tramway and Construction Car Castings, and Tobacco Machinery, &c. Prices on application.

LYNCHBURG, VA.

· · · SEND FOR CATALOGUE · · ·

OVER 20000 IN USE — PULSOMETER — BEST AND CHEAPEST STEAM PUMP KNOWN — STEAM PUMP — FOR ALL PURPOSES

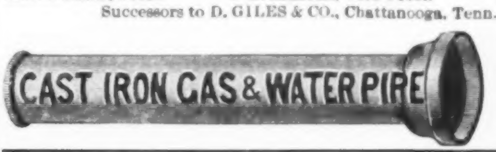
PULSOMETER STEAM PUMP CO. SOLE OWNERS—NEW YORK.

(COPYRIGHTED 1891)

CHATTANOOGA FOUNDRY & PIPE WORKS.

DAVID GILES, Prest. C. B. IBESTER, Vice-Prest. M. LLEWELLYN, Sec. and Treas.

Successors to D. GILES & CO., Chattanooga, Tenn., Manufacturers of



Also **Castings & Patterns** of Every Description Made to order.

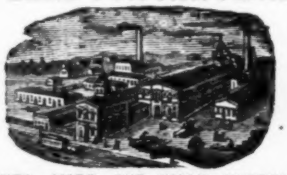
LUDLOW VALVE MFG. CO.

Office and Works, 938 to 954 River St., and 67 to 83 Vail Ave., TROY, N. Y.

VALVES

Double and Single Gate, ½ inch to 48 inch; outside and inside Screws, Indicators, etc., for Gas, Water, Steam, Oil.

SEND FOR CIRCULAR.



ALSO FIRE HYDRANTS, YARD AND WASH HYDRANTS, CHECK AND FOOT VALVES

JOHN W. HARRISON, President and Treasurer. THOS. HOWARD, Vice-President.
F. B. NICHOLS, 2d Vice-President. E. H. QUEEN, Secretary. P. McARTHUR, Superintendent.

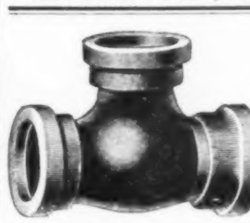
HOWARD-HARRISON IRON COMPANY,

MANUFACTURERS OF

FOR WATER WORKS, GAS WORKS, CULVERTS.

Pipe and Pump Connections. Flexible Joints. Heavy Loam Castings.

Works at BESSEMER, ALA. Offices at BESSEMER and ST. LOUIS.



DURING 1892 the Radford Pipe & Foundry Co. supplied pipe to Boston, Philadelphia, Baltimore, Syracuse, also Lowell, Fitchburg, West Newton, Mass., and numerous other Eastern cities, besides cities in the West, South and Northwest.

Works, RADFORD, VA., ANNISTON, ALA., General Offices, CINCINNATI, OHIO.

The Crandall Outlasts Everything.

Our Improved Packings for Steam, Water and Ammonia are THE BEST IN THE WORLD.

Not having been subjected to the injurious chemical action of boiling oil, they remain tough and elastic, and never melt and gum.

We are the only rightful users of the COLD OIL process (pat.)

BEWARE OF INFRINGEMENTS AND COOKED IMITATIONS.

None Genuine without our Trade Mark.

CRANDALL PACKING CO.

Main Office and Works, { PALMYRA, N. Y. / 1932 North Broadway, ST. LOUIS, MO.

OTHER OFFICES: { NEW YORK, 136 Liberty Street. / CHICAGO, 51 S. Canal Street.

D. SAUNDERS' SONS

MANUFACTURERS OF

10

11

DIE-STOCKS AND VISES

For LARGE PIPE. These Stocks have CUTTING OFF ATTACHMENT, and both Vises and Stocks are MALLEABLE IRON, light, strong and of superior design and finish. Also PIPE THREADING MACHINES ¼ inches to 16 inches, Tapping Machines, &c. Send for catalogue to

31 Atherton Street, YONKERS, N. Y.

ROCKY MOUNT,

NORTH CAROLINA,

On the Atlantic Coast Line, 125 miles South of Richmond, Va. Offers the most flattering opportunities for business and investment of any town in the South. During the past year the

POPULATION increased from 1,194 to 2,500; 185 new dwellings and stores, and seven new Tobacco Leaf Houses have been built. All are occupied and the demand is not half filled.

ROCKY MOUNT COTTON MILLS are increasing their capacity from 15,000 to 30,000 spindles, and in the fall will employ 300 additional hands.

TOBACCO BUSINESS of the town has more than doubled in capacity. There are three large warehouses and fourteen leaf houses now in operation.

ATLANTIC COAST LINE RAILROAD are building their main yards and shops here. Several buildings are under roof, miles of track laid, coal shutes, etc., erected; 200 new hands will be employed this fall; next year three times that number. All this has been accomplished in one year.

MERCHANTS AND MANUFACTURERS—Rocky Mount is the most promising point for business in the whole South.

INVESTORS—Look at Rocky Mount, the return will be large, sure and quick. For information write

Rocky Mount Improvement and Manufacturing Co.

Rocky Mount, North Carolina.

J. H. LOGAN, General Manager. ARRINGTON & ARRINGTON, General Agents.

J. WM. MIDDENDORF. Members Baltimore Stock Exchange. WM. B. OLIVER.

MIDDENDORF, OLIVER & CO.

BANKERS AND BROKERS,

No. 213 E. German Street, [KEYSER BUILDING.] **Baltimore, Md.**

Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

L. Breckinridge Cabell,

53 Broadway, NEW YORK, Room 17.

Lands, Securities and Industrial Enterprises; Total Issues of Corporate, Municipal and County Bonds Taken; Municipal Debts Consolidated and Refunded at lower rates; Railroads Built and Equipped; Electric Roads Built and Equipped; Street Railroads using horse-power Changed to Electric Roads.

To Manufacturers of Hardwoods. To Manufacturers of Brick.

To Manufacturers of Cotton.

To Prospective Manufacturers Looking Toward the South to Locate,

AND

TO CAPITALISTS.

WASHINGTON

LOUISIANA.

A CITY OF 1,800 PEOPLE.

Offers More Practical and Substantial Inducements Than Any Other Town in the South.

First.—At the very doors of Washington are VAST VIRGIN FORESTS of Hickory, Oak, Walnut, Magnolia, Cypress, and every variety of the Finest Hardwoods, so easy of access that Black Walnut and Hickory are cut for cordwood. The forests are practically inexhaustible, extending for 100 miles along the Bayou Courtableau, Bayou Cocodrie and Bayou Bouef, upon which waterways Washington is situated. Magnificent opportunities for hardwood manufacturing exist at Washington.

Second.—Washington already possesses such industries as:

A Large Cotton Factory (cost $50,000.)
A Saw Mill.
A Drain Pipe and Tile Works.
A Steam Brick Mill.
An Oil Factory.
Three Cistern Factories.
A 100-saw Cotton Gin.
A Sash and Blind Factory.
Fifteen Large General Stores.
Churches, Schools and every advantage of an old-established town.

Third.—Washington is AT THE HEAD OF NAVIGATION of Bayou Courtableau, and enjoys cheap transportation by water to New Orleans, the East and West, and low freights by both water and rail via the Southern Pacific Railway, which runs through the town. The cost of raw material and the finished product is thus reduced to a minimum, and the saving on Northern and Western freights alone make a profit of 10 to 25 per cent. to manufactories located here.

Fourth.—Washington is situated in St. Landry Parish, adjoining the famous Teche Sugar Country, and every diversity in crops is grown. Some of the largest sugar plantations in Louisiana adjoin Washington, and rice, cotton, corn and oats yield enormous crops.

Fifth.—Labor in abundance is available for small manufacturing plants at very low cost.

WASHINGTON INVITES INQUIRIES.

For detailed information regarding its advantages and inducements for new industries address

LEON WOLFF, Mayor, Washington, La.

HOTEL, Overlooking Central Park,

Fifth Avenue 58th and 59th Streets, N.Y. The Highest Class. **Plaza** ABSOLUTELY FIRE-PROOF. American and European Plans.

The water and ice used are vaporized and frozen on the premises, and certified to as to purity by Prof. Chas. F. Chandler.

GEO. A. HYDE,

Real Estate in all Branches.

J. R. HOWARD, C.E. S. J. DAVENPORT, M.E.

Special attention given to the

SALE OF MINES,

Mineral, Timber and Quarry Lands,

LAWRENCE BUILDING,

Rooms 16 and 17, 615 and 617 14th Street,

WASHINGTON, D. C.

GOLD, COPPER, SILVER, TIN, MANGANESE, COAL, NICKEL, IRON, ASBESTOS, LITHOGRAPHIC STONE, GYPSUM, DOLOMITE, SOAPSTONE, PHOSPHATE OF LIME, TALC, ETC., For Sale.

FREE SITES & BUILDINGS

FOR LEGITIMATE MANUFACTURERS!

DO YOU wish a better location for your plant than the one you occupy at present?

DO YOU desire factory sites and buildings erected after your own plans and specifications as a donation?

WE OFFER YOU a choice of locations in ILLINOIS, OHIO, INDIANA, &c. also in the cities of CHICAGO, MILWAUKEE, ST PAUL, DULUTH, &c, with lowest freight rates to and from all points.

ADDITIONAL CAPITAL ALSO PROCURED

WRITE FOR PARTICULARS

YOUR BUSINESS WILL BE TREATED CONFIDENTIALLY AND PROMPTLY.

REFERENCES GIVEN UPON REQUEST.

ADDRESS F. S. MORDAUNT Co.

CHAMBER OF COMMERCE BLDG, CHICAGO or THIRD NATIONAL BANK BLDG, CINCINNATI, O.

THE SOUTH BALTIMORE HARBOR & IMPROVEMENT COMPANY.

THE SOUTH BALTIMORE HARBOR & IMPROVEMENT CO. is the owner of about 1,500 acres of land and five miles of water front adjoining the city of Baltimore, on the south side of the Patapsco river.

LOCATION.

The land is beautifully located, running from the water's edge, gradually to a height of about 200 feet; is free from malarial influences, and is generally considered one of the healthiest locations adjoining the city.

WATER FRONT.

The center of the water front consists of the famous land-bound harbor of Curtis Bay, with an average depth of water of 25 feet.

MANUFACTORIES.

The advantages of this locality for manufacturing purposes cannot be over-estimated. The best proof of this assertion is that capitalists have within the last few years selected it in preference for large manufacturing enterprises, such as a Sugar Refinery, Barrel Factory, Car Works, Foundry, Nut and Bolt Manufactory, the Ryan-McDonald Machine Shops, which were removed from Waterloo, N. Y.; the Beckwith Rolling Mills, which were removed from Paterson, N. J., besides others now in contemplation of erection.

LABOR.

The great advantage of this place as to labor, is the town of SOUTH BALTIMORE, adjoining the factories, containing hundreds of substantial brick houses, for the employees of these various works. (There are now being built by the Company, as well as by others, blocks of houses, in addition to the above.)

BALTIMORE & OHIO R. R. CO.

The Baltimore & Ohio Railroad runs through this property, and has a terminus at Curtis Bay.

ELECTRIC RAILWAY.

An Electric Railway is now completed from the City of Baltimore to the Sugar Refinery (near the southern limits of this property), the fare upon which will be only five cents, the cars to be run every ten minutes, and thereby making it a part of Baltimore City, as well as easy of access at all hours.

CHURCHES.

The town contains a Presbyterian, a Catholic, a Methodist, a Baptist and an Episcopal Church.

BUILDING LOTS.

Capitalists and Builders to erect houses in this growing town, both for sale or to rent, will find a rare opportunity for investment; as the demand for houses is greater than the supply.

The Company will sell or lease water fronts, or lots for manufacturing and for dwelling purposes, at moderate rates.

Manufacturers will find it to their interest to examine this property before locating elsewhere.

For particulars and prices, apply to

WILLIAM S. RAYNER, President,
No. 8 East Lexington Street,
BALTIMORE, MD.

THE BRADSTREET Mercantile Agency

WAS ESTABLISHED IN 1849.

Is the oldest and financially the strongest organization of its kind, working in one interest and under one management, with more capital invested in the business, and expends more money every year for the collection and dissemination of its information than any similar institution in the world. Its reports are considered in the light of a guide by both investors and those contemplating the granting of credit. In addition to a large corps of skilled employes, more than one hundred thousand correspondents contribute the result of their investigation and opinions. Subscriptions are annual, and may commence at any time the subscriber elects. Details as to prices and terms will be furnished upon application.

CHARLES F. CLARK, President.

Baltimore Office, - American Building.

H. KERSHAW, Supt.

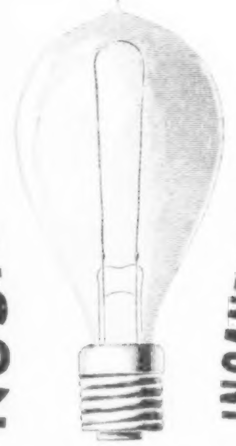
Alphabetical Index of Advertisers.

For "Classified Index" see Pages 3, 5 and 7.

* Not in this issue.

General Electric Company.

44 Broad St., New York City. 620 Atlantic Ave., Boston, Mass.



THE EDISON INCANDESCENT LAMP

Is the ONLY INCANDESCENT LAMP

LAWFULLY MADE.

The right of the Edison Company to an injunction against infringers has been determined by the United States Circuit Court of Appeals.

ALL OTHERS INFRINGE THE EDISON PATENTS AND ARE COUNTERFEITS.

See decision of United States Circuit Court of Appeals in case of Edison Electric Light Company vs. United States Electric Light Company, decided October 19th, 1892.

See decision of United States Circuit Court of Appeals in case of Edison Electric Light Company and Edison General Electric Company, against Sawyer-Man Electric Company, decided Dec. 5, 1892.

Copies of these decisions will be sent on application.

BRANCH OFFICES:

173 and 175 Adams Street, Chicago, Illinois.
264 West Fourth Street, Cincinnati, Ohio.
Gould Building, Atlanta, Georgia.
15 First Street, San Francisco, California.
Masonic Temple, Denver, Colorado.
620 Atlantic Avenue, Boston, Mass.
44 Broad Street, New York.
509 Arch Street, Philadelphia, Pennsylvania.
1333 F Street, N. W. Washington, D. C.
401–407 Sibley Street, St. Paul, Minnesota.

HEISLER ELECTRIC COMPANY,

Manfuacturing and Constructing Electrical Engineers

Office—828 Drexel Building, *Works—Gloucester City, N. J.*

PHILADELPHIA

We make a specialty of the complete installation of our IMPROVED LONG DISTANCE SERIES SYSTEM *with reduction coils for reducing the voltage for domestic illumination, and permitting the use of meters if desired.*

DIRECT AND ALTERNATING CURRENT CONSTANT POTENTIAL INCANDESCENT APPARATUS with *Regulating* or ordinary sockets, for Isolated Plants.

TRANSFORMER APPARATUS of the Latest and Most Improved Type.

SERIES LAMPS for use on *Arc Circuits,* of any current and candle-power, and to fit any *series socket.*

D. C. FAN MOTORS, 1-6th and 1-12th h.p. Any voltage.

We invite investigation of the above apparatus.

Competent Engineers furnished to make estimates.

JOHN SIMMONS COMPANY,

MANUFACTURERS OF

STEEL AND IRON

Poles and Brackets for Electric Railways,

Wrought, Cast Iron and Steel Pipe and Fittings.

Supplies for STEAM, WATER, GAS, OIL AND ELECTRIC ENGINEERING.

106-108-110 Centre Street, NEW YORK.

WANTED.

TO CORRESPOND with Hardware and Machinery Manufacturers who would be desirous of having agency here for the sale of their goods. Have a well established trade now, and facilities for doing large business the coming season.

S. L. MITCHEL, Manufacturers' Agent,

34 Magazine Street, New Orleans, La.

DYNAMOS, ELECTRIC MOTORS.

Cheap and Reliable.

Rockford Electric Mfg. Co., Rockford, Ill. A. PIZZINI, Jr., Agent, Richmond, Va.

HUMANE, STRONG, CHEAPER THAN BARB WIRE. Visible, Ornamental.

HARTMAN WIRE PANEL FENCE.

Double the Strength of any other Fence; will not stretch, sag or get out of shape. HARMLESS TO STOCK; a Perfect Farm Fence, yet handsome enough to ornament a lawn. Write for prices, descriptive circular and testimonials, also Catalogue of Hartman Steel Picket Lawn Fence, Tree and Flower Guards, Flexible Wire Mats, &c. Always mention this paper.

HARTMAN MFG. CO., Beaver Falls, Pa.

Branches—102 Chambers St., New York; 508 State St., Chicago; [illegible]

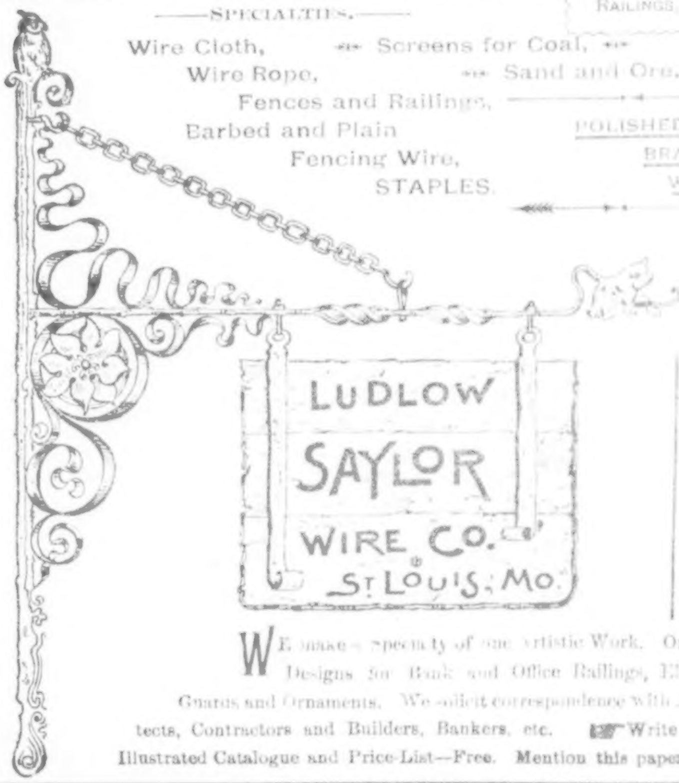
Wire and Wire Goods

BANK AND OFFICE RAILINGS, &c.

—SPECIALTIES.—

Wire Cloth, Screens for Coal,
Wire Rope, Sand and Ore.
Fences and Railings,
Barbed and Plain
Fencing Wire,
STAPLES.

POLISHED BRASS WORK.



114 AND 116 S. FOURTH STREET, St. Louis, Mo.

WE make a specialty of fine Artistic Work. Original Designs for Bank and Office Railings, Elevator Guards and Ornaments. We solicit correspondence with Architects, Contractors and Builders, Bankers, etc. Write for Illustrated Catalogue and Price-List—Free. Mention this paper.

THE FRED. J. MEYERS MFG. CO.

MANUFACTURERS OF

WROUGHT-IRON FENCES, ROOF CRESTING, JAILS

AND ALL KINDS OF

BUILDING IRON WORK.

ALSO

Wire Bank and Office Railing, Wire Window Guards

AND EVERY DESCRIPTION OF WIRE WORK.

Send for illustrated catalogue.

OFFICE AND WORKS, 419, 421 and 423 MADISON STREET. COVINGTON, KY.

CHAMPION IRON CO.

KENTON, OHIO.

SPECIALTIES.—Iron Stairs and Jail Work, Builders' and Ornamental Iron Work and the only manufacturers of Malleable Iron Cresting guaranteed against breakage.

Largest Iron Fence and Railing Works in United States.

C. G. CUSHMAN, Prest. & Mgr. JOHN BIRD, 2nd, V.-Prest. & Supt. A. J. CHAFFIN, Sec. & Treas.

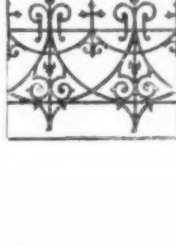
THE CUSHMAN IRON CO.

Architectural and Ornamental Iron Works,

BRIDGE RAILINGS, FENCES, FIRE ESCAPES, BEAMS, CHANNELS, GIRDERS, &C.

Selling Agents for Engines, Boilers, Elevators, Wire Rope Tramways, Wire Rope, Iron and Steel Siding and Roofing, Etc.

OFFICE—Commercial Bank Building. WORKS—West End. ROANOKE, VA.



ROOF CRESTINGS

BANK AND OFFICE RAILING,

Wire and Iron Fencing, Roof Cresting, Stable Fittings, Wire Elevator Enclosures, Fire Escapes and Structural Iron and Wire Work.

TOLEDO WIRE & IRON WORKS, - - Toledo, Ohio.